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League of Nations Publications.

II. Economic and Financial.

- 1930.II.8. ✓(1). Memorandum on Production and Trade, 1923 to 1928/29. 99pp.
- 1930.II.11. (2). Review of the Legal Aspects of International Agreements prepared for the Economic Committee by M.H. Decugis (France), Mr. R.L.Olds (United States) & M.S.Tschierschky (Germany). (529(1).) 95pp.
- 1930.II.41. (3). Review of the Economic Aspects of Several International Industrial Agreements prepared for the Economic Committee by M.A.St. Benzi (Italy), M. Cl. Lamers (Germany), M.L.Marilo (France) and M.A.Meyer (Luxemburg). (E.614.) 76pp.

LEAGUE OF NATIONS

Geneva, June 1930.

ECONOMIC AND FINANCIAL SECTION

MEMORANDUM

ON

PRODUCTION AND TRADE

1923 TO 1928/29

Series of League of Nations Publications
II. ECONOMIC AND FINANCIAL
1930. II. 8.

LEAGUE OF NATIONS

**MEMORANDUM ON PRODUCTION AND TRADE
. 1923 to 1928-1929.**

Errata.

Page 8. — Note :

After " 1913 was employed " read " as base ".

Page 25. — Table VIII, indice for foodstuffs 1928 :

For " 103 " read " 108 ".

Page 41. — Table XIII (b), column 6 :

For " output in 1929 as percentage of that in 1915 " read " output in 1929 as percentage of that in 1925 ".

Page 59. — Line 4.

For " 205 metric tons " read " 220 metric tons ".

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PREFACE.

The first *Memorandum on Production and Trade* was published in October 1926 as one of the preparatory documents for the World Economic Conference. The Conference expressed a wish that the work then undertaken should be continued and two editions of the Memorandum have since been published. This fourth volume covers the period 1923-1928, but preliminary results for 1929 are also furnished.

The base period adopted in the preceding editions was 1913 or the quinquennium 1909-1913. In the present edition, 1926 has been substituted as the base year in the chapters on production of foodstuffs and raw materials, trade and population, and new series of relative numbers and indices have been calculated. For the sake of continuity, however, indices based on 1913 are also given in the annexes.

As the result of a recommendation of the Economic Consultative Committee at its last session, that the Economic Organisation of the League " should continue and expand its studies concerning the comparative prices of agricultural and industrial products ", a special enquiry into the recent relative movements of such prices has been undertaken and is at present being pursued. For the purposes of this enquiry, the results of which it is hoped to publish before next year's meeting of the Consultative Committee, the year 1913 is being taken as base. It has, therefore, been thought advisable to maintain 1913 as the base period in the price chapter contained in the present volume.

The study of certain aspects of manufacturing industry, which is included for the first time in this volume, is the outcome of a resolution adopted by the Assembly of the League of Nations at its last session. The Assembly requested the Council to " consider the possibility of arranging for the preparation of a comprehensive annual survey of economic developments in the near future and for the collection by the Economic Organisation of all the information required for this purpose ". On the advice of the Economic Committee, the Council decided that the preparation of a general and separate survey of economic conditions should be postponed until after the International Convention relating to Economic Statistics has come into force. At the same time, it gave instructions that, as a provisional measure, a chapter dealing with such information concerning the development of industrial activity as is now available should be prepared for the next edition of the *Memorandum on Production and Trade*.

This study, tentative and incomplete as it is, forms a useful complement to the chapter on the production of foodstuffs and raw materials and is helpful when checking the conclusions regarding the recent development of the world's industrial output, to which the returns for raw products point. It covers in general the period 1925-1929: the year 1925 is adopted as base.

The detailed figures on which the indices for population and the production of foodstuffs and raw materials are based, will be published simultaneously with this volume in the *International Statistical Year-Book*, 1929. Those relating to trade have already appeared in the *Memorandum on International Trade and Balances of Payments*, 1926-1928, Volumes I and III.

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

A. LOVEDAY.

Geneva, June 1930.

INTRODUCTORY.

The general form and composition of this Memorandum is similar to that of the editions published in earlier years, except for the addition of the chapter on industrial production to which reference is made in the preface.

One important change has, however, been made. The base year for the calculation of the indices of foodstuffs and raw materials contained in Chapter II, and of international trade contained in Chapter III, has been changed from 1913 (or the quinquennium 1909-13) to 1926. This later year is not wholly satisfactory as a base period as it was affected by the British coal dispute. But it is perhaps preferable to the preceding year in which the range of price movements was relatively wide and tended, therefore, to affect the accuracy of the trade figures.

The year 1926, however, while preferable for the international trade figures and therefore for the indices of raw material production which are compared with them, is not well suited for use as a base period when considering the output of individual industries. It has been thought preferable, therefore, even at some sacrifice of comparability between Chapter IV and those which precede it, to employ for this purpose the year 1925. This system has the additional advantage in that, since fairly complete preliminary data concerning industrial output are available for 1929, it thus became possible to cover the whole of the quinquennium ending in that year.

In Table I below, the most important indices relating to population, the production of raw materials and foodstuffs and the quantum of trade are set out in parallel columns. The indices for both production and trade are quantitative, changes in value having been eliminated by processes of analysis described later. The world has been divided into seven continental groups and Europe into three sub-groups.

TABLE I.
GROWTH OF POPULATION, PRODUCTION AND TRADE OF THE WORLD 1926-1928.
(Base : 1926 = 100)

Continental groups	Popula- tion	Prod. of foodstuffs and raw materials		Quantum of trade	
		1928	1927	1928	1927	1928
(a) Eastern & Central Europe :					
Excluding Russia (U.S.S.R.) . . .	102	111	120	124	130
Including Russia (U.S.S.R.) . . .	103	105	111	123	129
(b) Rest of Europe	101	118	118	109	112
Europe, excluding Russia (U.S.S.R.) . .	102	115	119	113	117
Europe, including Russia (U.S.S.R.) . .	102	110	113	113	117
North America	102	99	104	102	107
Caribbean	102	96	102	102	96
South America	105	115	121	113	119
Africa	103	103	107	111	122
Asia, excluding Asiatic Russia ¹	101	102	105	100	98
Oceania	103	100	104	105	101
WORLD	102	A 105 B 103 C 107	108 108 109	108	111

A = Foodstuffs and raw materials ; B = Foodstuffs ; C = Raw materials.

¹ Excluding production of foodstuffs in China.

Note. — In order to afford a link with the preceding editions of this Memorandum in which the year 1913 was employed, the following table has been prepared.

(Base : 1913 = 100)

Continental groups	Popula- tion	Production of foodstuffs and raw materials			Quantum of trade		
		1928	1926	1927	1928	1926	1927	1928
(a) Eastern & Central Europe :							
Excluding Russia (U.S.S.R.) . . .	105	92	100	108	86	106	111
Including Russia (U.S.S.R.) . . .	108	100	103	109	76	94	99
(b) Rest of Europe ¹	107	99	115	114	101	110	112
Europe excluding Russia (U.S.S.R.) ¹ .	106	96	107	111	96	109	112
Europe including Russia (U.S.S.R.) ¹ .	108	99	107	110	92	104	107
North America	126	130	128	135	152	154	162
Caribbean	108	153	147	158	136	138	131
South America	143	133	150	156	107	120	127
Africa	110	140	145	152	110	125	133
Asia, excluding Asiatic Russia ¹	107	118	122	124	154	153	150
Oceania	125	128	129	133	136	143	138
WORLD	110	A 116 B 109 C 128	120 111 136	125 116 140	112	121	124

A = Foodstuffs and raw materials ; B = Foodstuffs ; C = Raw materials.

¹ In calculating the *quantum* figures for trade on the base 1913 = 100 the Netherlands have been left out of account owing to incomparability of pre- and post-war statistics.

² Excluding production of foodstuffs in China.

The group of Central and Eastern European countries here and elsewhere in this Memorandum consists of Albania, Austria, Bulgaria, Czechoslovakia, Estonia, Germany, Greece, Hungary, Latvia, Lithuania, Poland, Roumania, U.S.S.R., Yugoslavia and European Turkey.

The whole of the present Union of Soviet Socialist Republics is incorporated in Europe in all the calculations. The absolute figures from which the various indices have been calculated, therefore, are all somewhat too low in the case of Asia and too high in the case of Europe. The procedure adopted was unavoidable, as under the new administrative system the old line of division between Asiatic and European Russia has been abolished and all production figures available refer to the whole Union, including the territories in Asia. The population to-day of what used to be considered as Asiatic Russia is probably over 30 million persons.

The Caribbean group comprises the continental States from Mexico in the north to Panama in the south and all the islands in the Gulf; the North American group is composed of Alaska, Canada, Labrador, Newfoundland and the United States.

The evidence afforded by the table and later analysis points to the following general conclusions, certain of which will require subsequent interpretation and qualification :

(a) World population in 1928 was about 10 per cent greater than in 1913, world production of foodstuffs and raw materials was about 25 per cent greater, and world trade about 22 per cent greater. The corresponding increases since 1926 have been about 2 per cent, 8 per cent and 11 per cent.

World production and trade developed considerably in 1928, and, according to the preliminary information available, further headway was made in 1929.

(b) The growth of world population between 1926 and 1928 may be estimated at approximately 35 millions — an average increase of about 1 per cent per annum. The rate of increase was highest in South America.

(c) In recent years the world production of foodstuffs has increased at a somewhat slower rate than that of industrial raw materials. The discrepancy was considerably reduced in 1928 as a result of the exceptionally heavy food crops, but it was again accentuated in 1929, for which the provisional indices based on 1926 were 106 for foodstuffs and 117 for raw materials.

(d) Such statistical information as is available suggests that the manufacturing industry has progressed more rapidly than the production of industrial raw materials in recent years. Year by year, new economies in industrial processes are effected and a larger product is obtained from a given supply of raw materials. The iron and steel industry, the mechanical industry (including engineering, ship-building and automobile manufacture) and the electrical industry would appear to have raised their production between 1925 and 1929 by 25 per cent or more. In the textile group, the relatively slow development of the cotton and wool industries has been only partly offset by an increase in the output of natural and

artificial silk. The production of electricity increased by about one-third during the period 1925-1928.

(e) International trade was stimulated in 1927 and 1928 by considerable capital movements, largely due to the demand arising from the reorganisation of industry in Europe and industrial development in other parts of the world. It would appear that, in spite of a heavy fall in the general price level, there was a further increase in the value of trade in 1929.

(f) Since 1926, Europe has continued to make rapid progress. The increase in the production of foodstuffs in Europe, excluding Russia, in the period 1926 to 1928, was greater than in any other part of the world. The rate of growth in the output of raw materials was exceeded only in South America. The expansion of international trade in Europe, as a whole, between 1926 and 1928, was less than in Africa and in South America, but the indices for the Eastern and Central European group of countries were the highest in the world.

(g) In North America, new records in production and trade were reached in 1928. But the rate of advance in both since 1926 has been slower than in Europe. Indeed, the raw material output was higher in 1925 than in the two succeeding years, and the rise in the general production index for 1928 was exclusively due to exceptionally good harvests. On the other hand the national indices of industrial production for Canada and the United States show continuous progress in manufacturing activity in 1928 and during a large part of 1929. Towards the end of the latter year, however, production fell off here and elsewhere.

(h) The production of foodstuffs and raw materials in South America grew between 1924 and 1928 more rapidly than in any other part of the world, and trade developed at an almost equal rate. It would appear, however, that this progress was not maintained in 1929.

(i) In Africa, production has made steady but relatively slow progress. On the other hand, the increase in African trade in 1927 and 1928 was second only to that of Eastern and Central Europe.

(j) The indices for Asia point to a development in production similar to that of Africa, but foreign trade declined in 1927 and again in 1928.

(k) Oceania has made little advance in recent years. Production remained stationary in 1926 and 1927 and increased only slightly in the following year; trade, after a 5 per cent increase in 1927, returned almost to the 1926 level in 1928.

(l) Compared with 1913, the prices of manufactured articles taken as a group appear to have remained, in 1928 and 1929, relatively higher than those of raw materials and foodstuffs, at any rate in Europe.

(m) The discrepancy between the two groups of prices since 1926 has been less pronounced than in earlier post-war years. On the other hand, the indices for the last two or three years show no further tendency to approach one another.

(n) It would appear that, between 1926 and 1928, agricultural produce ruled generally higher in price than raw products of the extractive industries, but that the position was largely reversed in 1929 as a result of the heavy fall in the prices of cereals and textiles.

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

I. POPULATION.

The figures relating to population, which are confined to the years 1926 and 1928, are given in this Memorandum only with a view to comparing the growth of population with the indices of production of foodstuffs, raw materials and international trade. It is not necessary, therefore, to consider in any great detail the demographic statistics of the world.

TABLE II.

CHANGES IN THE POPULATION OF THE WORLD IN THE PERIOD 1926-1928.

Continental groups	Population (000,000's)		Percentage movement		Percentage distribution	
	1926	1928	1926	1928	1926	1928
(a) Eastern and Central Europe :						
Excluding Russia (U.S.S.R.)	171.3	174.7	100	102.0	8.9	8.9
Including Russia (U.S.S.R.)	318.3	328.7	100	103.3	16.5	16.7
(b) Rest of Europe	195.0	197.3	100	101.2	10.1	10.1
Europe, excluding Russia (U.S.S.R.)	366.3	372.0	100	101.6	19.0	19.0
Europe, including Russia (U.S.S.R.)	513.3	526.0	100	102.5	26.6	26.8
North America	127.8	130.8	100	102.3	6.6	6.7
Caribbean	31.8	32.4	100	101.9	1.7	1.6
South America	76.0	79.8	100	105.0	3.9	4.1
Africa	140.0	143.5	100	102.5	7.3	7.3
Asia (excluding Asiatic Russia) ..	1,028.4	1,040.3	100	101.2	53.4	53.0
Oceania	9.2	9.5	100	103.3	0.5	0.5
WORLD	1,926.5	1,962.3	100	101.9	100	100
WORLD (excluding China).	1,467.8	1,503.6	100	102.4	—	—

The figures on which the calculations are based are frequently open to doubt. In many Asiatic and certain other countries, no regular census of population is taken, and even the census figures of the native population in Africa, South America, as well as other parts of the world, are often conjectural in character. Moreover, censuses are usually taken at long intervals and often at different years in the various countries, so that the majority of the figures are official or unofficial intercensal estimates. The information concerning China is particularly defective; the different estimates which have been made vary to a very appreciable extent. As the population of China represents some 23 per cent of the world's total, the calculations for the world as a whole are necessarily approximate. In the table given above it has been assumed that the Chinese population has remained stationary between 1926 and 1928.

In view of these facts it is perhaps desirable to consider the world figures both with and without China. If China is excluded, the annual increase amounted to nearly 18 millions, or about 1.2 per cent. If the Chinese population (458.7 millions) is included, the absolute increase is the same, but the annual rate of increase drops to under one per cent.

The figures for Europe (plus Asiatic Russia) are largely influenced by the U.S.S.R., which accounts for about 29 per cent of the total and has a national increase much in excess of the European average. If the U.S.S.R. be excluded, Europe shows a smaller advance than any other continent except Asia. The low Asiatic figure, however, is largely due to the fact that no change in population is indicated for China. The rate of growth in Europe without U.S.S.R. is lower than in Asia excluding China.

The population of the whole American continent has advanced during the two years under review by 3.1 per cent. The Caribbean population has shown a very low rate of increase over the whole post-war period. On the other hand, so far as can be judged from the confessedly imperfect statistics available, the population of South America continued to increase considerably more rapidly than that of any other continent, namely, by 5 per cent in the two years. With this may be compared 3.3 per cent in Oceania.

The rate of growth of the population in Africa is the same as that of Europe including the U.S.S.R. The Asiatic countries, other than Asiatic Russia and China, represent only about 53 per cent of the presumed total for this continent; their average rate of increase in the two years concerned has been 2.1 per cent.

Although the populations of the various continental groups given have thus increased at very varying rates, the period reviewed is too brief for this fact to have had any substantial effect upon the distribution of population and, indeed, the share of Asia and Europe together, where the rate of increase has been slowest, is so great, amounting to about 80 per cent of the total, that the influence on distribution of such variations in rates can only very gradually make itself felt.

II. PRODUCTION.

Very few countries publish comprehensive information concerning the output of industry, and it is impossible from the evidence available to obtain any accurate conception of the changes which have taken place in world industrial capacity or productivity. It is necessary, therefore, to approach the question indirectly and consider the figures of the production of raw materials and crude foodstuffs if a synoptic view is desired. Changes in the volume of raw materials produced, however, are not necessarily coincident with changes in the volume of industrial output. The science of industrial production is concerned largely with the discovery of means by which equal services may be rendered with a smaller consumption of crude products.

Moreover, the statistics of the production of raw materials taken alone and without reference to variations in stocks may fail to reflect accurately changes in industrial activity. The supplies of vegetable raw materials in a single year will depend primarily on the atmospheric conditions and not on the immediate industrial demand. The indices which are given below, therefore, should be interpreted with these facts in mind.

In order to measure the changes in the aggregate production of the world and its main territorial divisions by this means, it is necessary to take into account the output of a large number of different commodities. Owing to the multiplicity and variety of goods that require to be considered, the indices based on weight or volume statistics must be rendered comparable by expressing them in terms of some common denominator. It has been necessary, therefore, to calculate a quantitative index. For this purpose, the relative values of the various commodities calculated on the basis of representative price quotations in a defined period have been utilised as constant weights.

The prices employed are annual averages of actual quotations for medium qualities of the various articles in leading producing countries or free markets, and may be considered fairly representative of relative values on the world market. The index is calculated by the aggregative system. A further explanation of the procedure adopted will be found in Annex I, which should be consulted.

For the reasons indicated in the preface, new calculations have been made with 1926 as base. It should be noted that the European production in that year was adversely affected by the British coal dispute and that, therefore, the figures for other years appear higher than they would have been had conditions in the base period been more normal. But the importance of this point should not be exaggerated, for in almost every year prior to 1926 some event of an exceptional character influenced production in one division of the world or another. Moreover, production in Eastern Europe, excluding U.S.S.R., as well as in Western Europe was lower in 1926 than in 1925.

In view of the changes that have taken place in relative values, it has been considered desirable to make double calculations using as weighting coefficients, in the one case, the prices ruling in 1926 and, in the other, prices in 1928. The results obtained from these two methods of procedure in most cases vary but slightly. It is sufficient, therefore, to consider in the following analysis only those obtained by employing the 1926 values as weights. Discrepancies of some little importance do, however, occur in certain groups of commodities composed of articles the prices of which underwent substantial change between 1926 and 1928, and for this reason complete comparative figures are given in the Annexes.

The following sixty-two commodities have been taken into consideration :

LIST OF COMMODITIES INCLUDED IN THE PRODUCTION INDEX.

Wheat	Sesame-seed	Pig-iron and ferro-alloys
Rye	Soya beans	Steel (ingots and castings)
Barley	Ground-nuts	Copper
Oats	Copra	Lead
Maize	Palm and palm-kernel oil (raw)	Zinc
Rice	Olive oil (raw)	Tin
Potatoes	Cotton	Aluminium
Beet-sugar	Flax	Nickel
Cane-sugar	Hemp	Silver
Beef and veal	Manila hemp	Natural phosphates
Pork	Jute	Potash
Mutton and lamb	Wool	Sulphur
Coffee	Raw silk	Natural guano
Cocoa	Artificial silk	Chilian nitrate of soda
Tea	Raw rubber	Nitrate of lime (Norwegian and ammoniated)
Hops	Mechanical pulp	Cyanamide of calcium
Tobacco	Chemical pulp	Sulphate of ammonia
Cotton-seed	Cement	Superphosphates of lime
Linseed	Coal	Basic slag
Rape-seed	Lignite	Sulphate of copper
Hemp-seed	Petroleum	

Owing to the absence of complete or sufficiently representative data, certain classes of products have had to be omitted, the most important being dairy produce and timber. From the metal group, gold has been omitted, as so large a part of the production is used for monetary purposes. The production of certain other metals likewise excluded is probably too unimportant to have any noticeable effect upon the index. For China, no comprehensive statistics of the production of cereals and other foodstuffs exist. The tentative calculations relating to hides and skins given last year have been omitted from the present edition. Their influence on the general indices was, however, of no great significance. Further, no reliable figures of cement production in the Caribbean, South America and Africa are available; but this omission, too, is of very small importance.

Sub-indices have been calculated for the following groups of products : (1) cereals ; (2) cereals and other vegetable foodstuffs ; (3) meat ; (4) colonial produce ; (5) vegetable oil materials ; (6) textile materials ; (7) rubber ; (8) wood pulp ; (9) cement ; (10) fuels ; (11) metals ; (12) chemicals (fertilisers). The second group

includes the same cereals as the first and also rice, raw sugar and potatoes. Cereals, other food-crops, and meat constitute the " foodstuffs ", all other groups the " raw materials ". These foodstuffs, plus coffee, tea, cocoa, and hops account for over 60 per cent and the raw materials for just under 40 per cent of the total aggregates on which the general index is based. Any rough division is necessarily largely arbitrary and, in addition to the colonial products mentioned above, some of the oils and fats classed as raw materials are used as food. Taken in conjunction with the omissions mentioned above, this circumstance tends to diminish the relative importance of the production of foodstuffs as compared with the output of raw materials in the following calculations.

* * *

It is convenient to show first the general index of foodstuffs and raw materials combined, based on 1926 and weighted by 1926 values for the world as a whole and its main continental groups.

TABLE III.

GENERAL INDICES OF PRODUCTION WEIGHTED BY 1926 VALUES.

(Base: 1926 = 100)

Continental groups	1923	1924	1925	1926	1927	1928
(a) Eastern and Central Europe :						
Excluding Russia (U.S.S.R.) . . .	84	91	105	100	111	120
Including Russia (U.S.S.R.) . . .	76	81	99	100	105	111
(b) Rest of Europe	102	107	112	100	118	118
Europe, excluding Russia (U.S.S.R.) . .	93	99	108	100	115	119
Europe, including Russia (U.S.S.R.) . .	86	91	104	100	110	113
North America	97	90	96	100	99	104
Caribbean	101	110	105	100	95	102
South America	98	91	98	100	114	121
Africa	88	94	100	100	103	107
Asia (excluding Asiatic Russia) ¹	89	94	99	100	102	105
Oceania	86	93	90	100	100	104
WORLD	91	92	100	100	104	108

¹ Excluding production of foodstuffs in China.

Judging from the preliminary information available, the general world index in 1929 appears to have risen to about 111.

The above table requires to be considered in the light of the information furnished in earlier editions of this Memorandum. The apparently very rapid and substantial progress achieved by Europe in the period given represented, until 1925, a recovery of lost ground. In that year, the European index on the base of 1913 stood at 103. The indices of all the other continental groups were very substantially higher — North America 127, Caribbean 162, South America 130, Africa 143, Asia 127, Oceania 118. In 1923, the earliest year shown here, all the indices except that

for Europe, which stood at 85, were well above the pre-war level.¹ The rising figures for these continents, therefore, during the whole period 1923 to 1928 represent rather normal progress than recovery.

The figures indicate an almost continuous increase in production, only interrupted in 1926. There was, in the world as a whole, a substantial advance between 1923 and 1925, and again in the two years 1927 and 1928. The total increase during the six years from 1923 to 1929 amounts to 22 per cent,² which is equivalent to an average rise of 3.6 per cent per annum.

This remarkable development has not been equally shared by all continents. In Europe the rate of growth since 1923 has averaged some 5.8 per cent per annum, while in the rest of the world it was only 2.4 per cent. According to the preliminary information available, this differentiation in the rate of progress continued during 1929. If the U.S.S.R. were excluded from Europe, the differences would be still greater.

Within Europe, somewhat similar tendencies may be traced. On the one hand, the output of foodstuffs and raw materials in Eastern and Central Europe has recovered at an exceedingly rapid rate from the low levels of the early post-war years. The recovery in the U.S.S.R., however, slackened markedly, as the second of the indices in the table shows, in the more recent years under review. On the other hand, the rate of growth in Western and Maritime Europe, although substantial, has been less dramatic than in those countries which initially lost most ground. Moreover, in the last four years, the rate of growth in Western Europe has been relatively slow. The index for 1926, owing largely to the British coal dispute, was lower than in any year of the period considered, the index for 1927 was only 5 per cent greater than that for 1925 and no advance at all was made in 1928. As a result, the old quantitative equilibrium between the two main divisions of Europe has been largely, though not completely, restored. If the U.S.S.R. is omitted from the calculations, the deviation from the pre-war balance is further lessened. This substantial restoration of the pre-war quantitative equilibrium, however, must not be interpreted as implying a similar or equivalent restoration of the pre-war channels or composition of trade.

Of the continents, the development of which represents throughout the whole period a real progress as distinct from recovery, South America, Africa and Oceania record the highest figures; namely, an advance of over 20 per cent between 1923 and 1928. The South American index has been influenced both by the increase in raw material production, to which further reference will later be made, and by the exceptional coffee crops and cereal harvests in 1927 and 1928. It should be borne in mind, however, that the 1926 index was only two points higher than that for 1923. Further, the increase in quantities in the last two years under review undoubtedly exceeded that in values.

¹ In all cases these figures refer to the index weighted by 1913 values and are, therefore, not quite comparable with the figures given in Table III. Comparable figures for the years 1923 to 1928 are given in Annex III.

² Throughout this chapter, the rates of development of production are calculated direct from production aggregates and therefore do not always exactly coincide with the changes indicated by the indices and percentages shown in the tables.

North America hardly maintained the level of production of 1923 in 1925, but advanced in 1926 and again in 1928 by somewhat over 4 per cent, which is considered as the "normal annual rate of expansion of general business" in the United States of America. There has been a net increase over the whole period under review, but the rate of advance has been less than in any of the other groups, except the Caribbean. This last-mentioned group has been adversely affected by the steady decline in the output of petroleum in Mexico, a point to the significance of which further reference is made below.

Certain of the major factors responsible for these relative changes will become clear from an examination of the indices for different groups and sub-groups. Tables IV and V give the indices for foodstuffs and raw materials separately in a manner similar to that adopted in the preceding table.

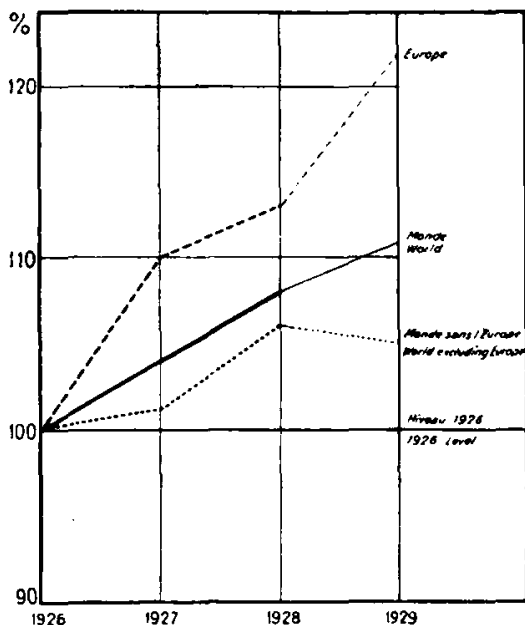
TABLE IV.
FOODSTUFFS PRODUCTION INDICES, WEIGHTED BY 1926 VALUES.
(Base: 1926 = 100)

Continental groups	1923	1924	1925	1926	1927	1928
(a) Eastern and Central Europe :						
Excluding Russia (U.S.S.R.)	94	94	110	100	109	122
Including Russia (U.S.S.R.)	81	82	101	100	102	109
(b) Rest of Europe	97	98	108	100	105	106
Europe, excluding Russia (U.S.S.R.)	95	96	109	100	107	115
Europe, including Russia (U.S.S.R.)	86	87	103	100	103	108
North America	109	99	100	100	105	111
Caribbean	92	110	104	100	97	109
South America	100	91	98	100	102	108
Africa	97	100	103	100	111	110
Asia (excl. Asiatic Russia and China)	96	100	101	100	101	103
Oceania	86	102	88	100	95	108
WORLD	95	94	101	100	103	108

No information is yet available for the production of meat in 1929, but if it be assumed that the rate of growth in that year was the same as the average rate for 1927 and 1928, the world foodstuffs index works out in the neighbourhood of 106. The corresponding index for raw materials is estimated at 117.

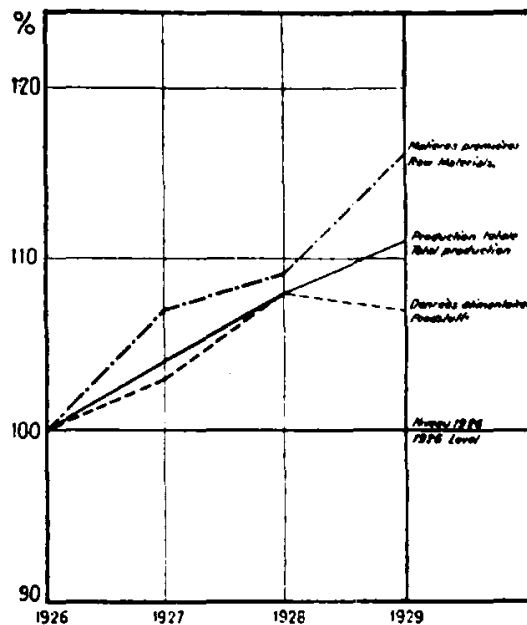
Both the production of foodstuffs and the output of raw materials have increased. But the rate of growth of the former has been slower than that of the latter. The average rate of annual increase for foodstuffs from 1923 to 1928 has been 2.6 per cent and for raw materials 4.9 per cent.

The above grouping is, however, not perfect and if colonial products other than tobacco be added to the foodstuffs group, the above rates would become 2.7 per cent and 4.8 per cent.



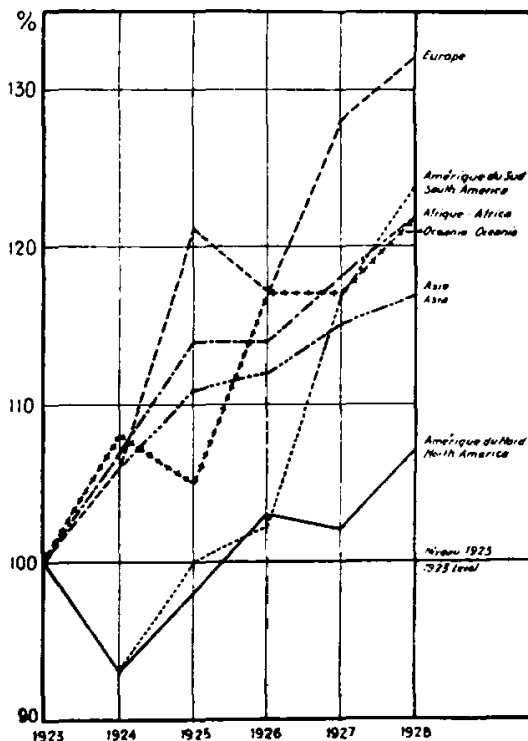
1. AGGREGATE PRODUCTION OF FOODSTUFFS AND RAW MATERIALS IN THE WORLD AND IN EUROPE, 1926-1929.

1926 = 100.



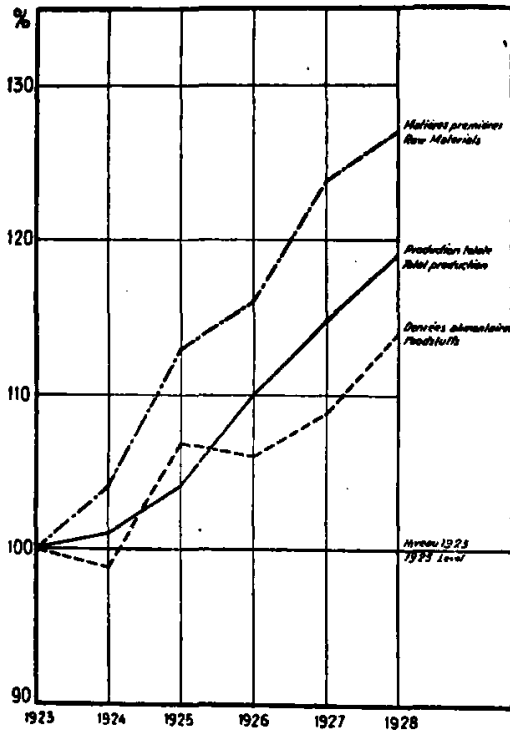
2. WORLD PRODUCTION OF FOODSTUFFS AND RAW MATERIALS, 1926-1929.

1926 = 100.



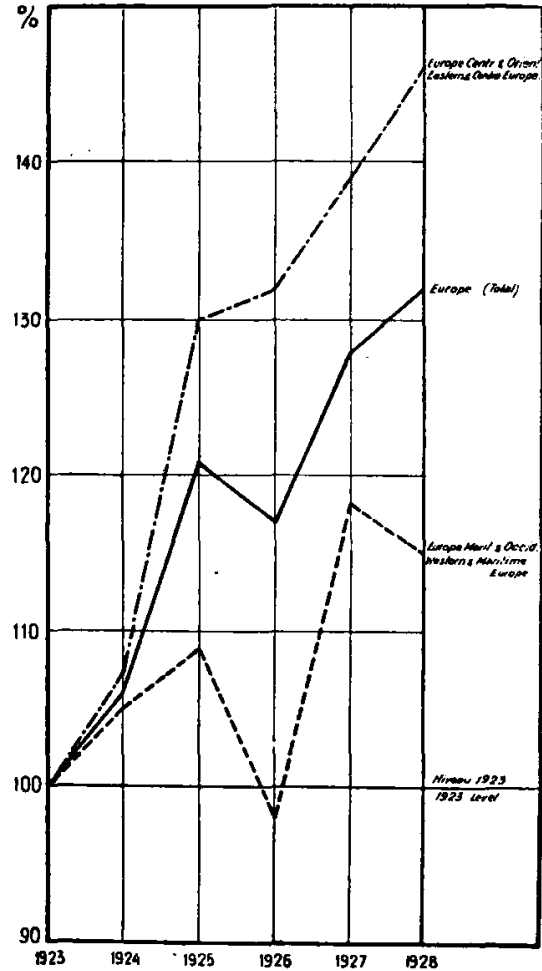
3. AGGREGATE PRODUCTION OF FOODSTUFFS AND RAW MATERIALS BY CONTINENTAL GROUPS, 1923-1928.

1923 = 100.



4. WORLD PRODUCTION OF FOODSTUFFS AND RAW MATERIALS, 1923-1928.

1923 = 100.



5. AGGREGATE PRODUCTION OF FOODSTUFFS AND RAW MATERIALS IN EUROPE, 1923-1928.

1923 = 100.

The rise in the production of raw materials in 1928 was small — less than 2 per cent. But, in the two years 1927 and 1928, it rather exceeded the normal rate of growth. As will be seen from Table VI below, the contributions of the various continental groups to the total production of raw materials in each case vary widely and, despite the exceptionally high South American index, the advance achieved was mainly due to an increase in the general output in Europe, and more especially in Western Europe. This is due in part, of course, to the fact that, in the base year 1926, Western European production fell off, owing to the British coal dispute. But, if comparison is made between 1928 and 1925, it still remains true that Europe contributed more to the world increase in the production of raw materials than did any other continental group. The 1928 index for Europe, based on 1925, amounted to 118 ; that for the other groups shown in the table only to 109.

It was stated above that the world index for 1929 on the preliminary and incomplete data at present available works out at about 117, showing, therefore, a substantial increase over 1928. This fact helps to illustrate a somewhat interesting characteristic of Table V, namely, the sudden jerks by which progress is achieved. The foodstuff index is more irregular than that for raw materials inasmuch as in some years it increases, in others decreases. It constitutes, however, a much smoother curve. Thus, the raw materials index increased in 1924 by 4.1 per cent, in 1925 by 8.4, in 1926 by 2.8, in 1927 by 6.6, in 1928 by 2.6 and in 1929 by approximately 7.4 per cent.

These figures seem to suggest that the underlying forces of world progress, when temporarily checked by this or that special factor, tend very rapidly to reassert themselves.

Reference was made above to the very rapid progress achieved during the last two years in South America. This must be attributed mainly to the growth of the petroleum industry in Venezuela and Colombia, and to the great improvement in the Chilian nitrate production. The index is, however, also largely influenced by the very large coffee crops in Brazil in the last two years given. With it should be compared the steadily declining index for the Caribbean group, due to the constantly diminishing output of petroleum in Mexico. It should be remembered in this connection that figures for the Caribbean are based largely on exports and not on production. The weight given to petroleum is accordingly exaggerated and the decline in the index shown in Table V is not really representative of the economic conditions obtaining in that part of the world. A much truer picture may be obtained by a careful study of Annex III. Raw material production exclusive of petroleum increased by 10 per cent between 1926 and 1928.

Although production in North America was over 4 per cent higher in 1928 than in 1927, it still failed to reach the exceptional level of the basic year. The index for Oceania declined, being affected particularly by the drop in the production of wool and coal. Those for Africa and Asia rose, and indeed, raw material production in these two continents has increased steadily and almost uninterruptedly during the whole period under review.

The extent to which the contributions of the different continental groups to the total volume of production considered have changed in relative importance in recent years is brought out in Table VI. This table gives the average percentage distribution of the aggregate production of foodstuffs and raw materials and of these two groups of commodities combined during the years 1923 to 1925 and 1926 to 1928.

TABLE VI.
PERCENTAGE DISTRIBUTION OF AGGREGATE PRODUCTION OF FOODSTUFFS
AND RAW MATERIALS, WEIGHTED BY 1926 VALUES.

(World total = 100.)

Continental groups	Foodstuffs		Raw materials		Total production	
	Average 1923-1925	Average 1926-1928	Average 1923-1925	Average 1926-1928	Average 1923-1925	Average 1926-1928
(a) Eastern and Central Europe:						
Excluding Russia (U.S.S.R.)	16.4	17.0	9.7	11.3	13.5	14.4
Including Russia (U.S.S.R.)	27.2	29.9	12.1	14.6	20.7	23.1
(b) Rest of Europe	13.2	12.6	17.8	16.4	15.2	14.3
Europe excluding Russia (U.S.S.R.)	29.6	29.6	27.5	27.7	28.7	28.7
Europe including Russia (U.S.S.R.)	40.4	42.5	29.9	31.0	35.9	37.4
North America	24.5	23.4	39.3	37.5	30.9	29.8
Caribbean	2.6	2.4	2.2	1.7	2.4	2.1
South America	5.8	5.9	5.1	5.8	5.5	5.8
Africa	2.5	2.5	3.0	2.9	2.7	2.7
Asia (excluding Asiatic Russia)	22.5	21.6	18.3	18.9	20.7	20.3
Oceania	1.7	1.7	2.2	2.2	1.9	1.9
WORLD	100	100	100	100	100	100

As has been shown above, the most striking feature of the last few years has been the gradual restoration of the balance in Europe between the eastern and central countries on the one hand, and the rest of the continent on the other. This tendency continued almost uninterrupted, year by year, during the period covered by the table. The recovery of the eastern and central countries has further tended to raise the share of Europe as a whole in world production. Although Europe's share is substantially higher to-day than it was in 1923 or 1924, the change since 1925 has been but slight. Indeed, Europe's share in the aggregate of all commodities dropped in 1928 and was only fractionally greater than in 1925.

The complement to this change in Europe's relative position is to be found in a slight tendency for the share of North America to diminish — a tendency which is

more pronounced in the figures for raw materials contained in Table VI. The share of the other continents taken together and the individual shares of Africa, Asia and Oceania have changed but little. South America has gained, and the Caribbean group, for the reasons explained above, has somewhat lost ground.

The indices already examined render it clear that, of the total of the commodities considered, foodstuffs tend to constitute a gradually diminishing proportion. The figures for any single year are naturally influenced by weather conditions, but the nature of this tendency can be appreciated by an inspection of the following table showing the percentage of aggregate values constituted by the two main groups during the three-year period 1923 to 1925, compared with the similar period 1926 to 1928. As stated above, the raw material group necessarily includes some commodities which are used in part for food, as certain products grown mainly for food also have industrial uses. In Table VII, two additional columns are given which show the influence of allocating all colonial products, except tobacco, to the foodstuffs group, where they more properly belong. The figures are all weighted by 1926 values, so that the changes result from alterations in quantities only.

TABLE VII.
SHOWING THE RELATIVE IMPORTANCE OF FOODSTUFFS AND RAW MATERIALS
IN AGGREGATE PRODUCTION, WEIGHTED BY 1926 VALUES.

(Total Production of each Continental Group = 100.)

Continental groups	Foodstuffs		Raw materials		Foodstuffs plus colonial produce ¹		Raw materials less colonial produce ¹	
	Average 1923-1925	Average 1926-1928	Average 1923-1925	Average 1926-1928	Average 1923-1925	Average 1926-1928	Average 1923-1925	Average 1926-1928
(a) Eastern and Central Europe								
Excluding Russia (U.S.S.R.)	69.3	64.9	30.7	35.1	69.7	65.5	30.3	34.5
Including Russia (U.S.S.R.)	75.0	71.6	25.0	28.4	75.3	71.9	24.7	28.1
(b) Rest of Europe	49.4	48.5	50.6	51.5	50.0	49.1	50.0	50.9
Europe excluding Russia (U.S.S.R.) . .	58.8	56.8	41.2	43.2	59.3	57.3	40.7	42.7
Europe including Russia (U.S.S.R.) . .	64.2	62.8	35.8	37.2	64.6	63.2	35.4	36.8
North America	45.2	43.5	54.8	56.5	45.4	43.6	54.6	56.4
Caribbean	60.3	63.9	39.7	36.1	68.3	73.4	31.7	26.6
South America	60.6	55.5	39.4	44.5	76.6	73.8	23.4	26.2
Africa	52.4	51.1	47.6	48.9	59.2	58.3	40.8	41.7
Asia	62.0	58.4	38.0	41.6	65.8	62.2	34.2	37.8
Oceania	50.5	49.0	49.5	51.0	51.0	49.5	49.0	50.5
WORLD	57.0	55.2	43.0	44.8	59.3	57.6	40.7	42.4

¹ Coffee, cocoa, tea, hops (but not tobacco).

It will be seen that foodstuffs have lost, and industrial raw materials gained, in relative importance in all continental groups except the Caribbean.

Too much significance should not be attached to the relative importance of foodstuffs and raw materials respectively in the different continental groups since, for metals, smelter production is taken. In consequence, the figures for, for instance, North America and Western Europe are inflated and those for Africa and South America reduced.

From an inspection of Annex V, it will be seen that, if 1928 weights be employed instead of those for 1926, the share of foodstuffs in the aggregates of all the products considered is, throughout the period, somewhat higher. This is due to the fact that the prices of the raw materials group declined more rapidly than did the prices of agricultural products. In 1926, the more important cereals, with the exception of wheat, ruled remarkably low in price. Between 1926 and 1928, there was a substantial decline in the prices of the majority of mineral products, while rubber prices have dropped to less than one-half. These falls have more than counterbalanced the simultaneous fall in the prices of, for instance, wheat and pork, bacon, etc.

In Table VIII below are given the indices for each commodity group for the years 1923 to 1928.

TABLE VIII.

GROUP INDICES OF PRODUCTION IN THE WORLD AS A WHOLE, WEIGHTED BY 1926 VALUES.

(Base : 1926 = 100)

Groups of products	1923	1924	1925	1926	1927	1928
Cereals	96	86	100	100	100	105
Cereals and other food crops .	95	93	102	100	103	107
Meat.	(93)	(99)	(98)	(100)	(104)	(111)
Colonial produce, etc.	89	90	100	100	118	113
Vegetable oil materials	86	96	103	100	116	109
Textiles	74	84	94	100	95	101
Rubber	74	75	90	100	109	104
Wood-pulp	78	81	90	100	106	108
Cement	76	84	93	100	110	115
Fuels	99	98	100	100	110	108
Metals	84	86	97	100	107	116
Chemicals	80	87	100	100	105	121
Foodstuffs	95	94	101	100	103	103
Raw materials	86	90	97	100	107	109
General index	91	92	100	100	104	108

The first index given above is supplementary to the second which includes, in addition to cereals, rice, potatoes and raw sugar. The indices of commodities which are comprised in these groups are given in Annex II, and the group indices for the separate continental groups will be found in Annex III.

Cereals and Other Food Crops.

Of all the commodity groups, that for cereals is the most important, accounting to-day for 25 per cent of the aggregate on which the indices are based. The two groups of cereals and other food crops taken together account for over 44 per cent of the aggregate. The production of cereals has, however, increased but little since the war and substantially less than that of any of the other groups of commodities except fuels. The aggregate of the group remained unchanged in the period 1925 to 1927 at about 5 per cent above the pre-war level. The 1928 harvest, however, was exceptionally good. Record returns were obtained for wheat, oats and barley. The rye crop was substantially, and the maize crop slightly, lower than in 1927. The production of rice, potatoes and of both beet and cane sugar in 1928 also equalled or exceeded that for any preceding year. Owing to the measures taken to restrict the area under sugar in Cuba, cane-sugar production in 1926 and 1927 was lower than in 1925. These measures were abolished, however, in 1928. In spite of this fact, however, beet-sugar production continued in that year to expand somewhat more rapidly than that of cane sugar. But, as is stated in the report of the Economic Committee of the League of Nations on the world sugar situation : " Beet sugar accounted in the opening years of the twentieth century for more than one-half of the world's total ; in 1913 for something less than half, and to-day for about one-third. " ¹

Meat.

The meat-production index, which is printed in parentheses in view of its somewhat conjectural character, continued to rise in 1927-1928. This increase was largely due to the growth in the production of pork, more especially in Europe. It would appear, from statistics shown in Annexes II and III, that there has been a substantial shift in demand in recent years from cereals to meat and potatoes and simultaneously from beer to non-alcoholic beverages. No doubt, if statistics for fruit were available, it would be found that the consumption of fruit had likewise very considerably increased. In this connection, however, it is interesting to note that the production of meat — and, indeed, the consumption per head — in North America is lower to-day than it was in 1923-24, whereas in Europe it increased between 1923 and 1928 by almost one-half.

Colonial Produce, Tobacco, Hops.

The group indices shown for 1927 and 1928 reflect the remarkable variations in the coffee crops. The 1927 crop (season 1927-28) was the heaviest ever harvested,

¹ *The World Sugar Situation*, 1929, page 6.

exceeding that of the preceding season by 64 per cent. A large surplus of some 10 million bags was left over and production in 1928 (1928-29) dropped considerably, although it was substantially above the 1926 level. The aggregate production of colonial products other than coffee remained practically unchanged over the period 1926-28.

From the figures available, it would appear that the production of tobacco has diminished since 1926. But too much reliance should not be placed on the statistics presented as, owing to the lack of data, the Asiatic production has had to be roughly estimated on the basis of figures of area under cultivation.

Vegetable Oils.

The output of all the oil products of temperate regions was lower in 1928 than in the preceding year. But the drop in the index is very largely due to the fact that the production of olive oil in 1927 was on a quite exceptional scale. The tropical supplies of vegetable oil slightly increased, the falling off in palm-oil and sesamum being more than outweighed by the substantial advance in the supplies of copra, ground-nuts and soya beans.

Textiles.

The textile industry showed some recovery in 1928, compared with the previous year. Indeed, as an inspection of Annex II will show, the production of all textiles excepting jute increased. The total change since 1926 was very slight, however, and this despite a further very large addition to the quantities of artificial silk placed on the market. According to the figures available, the production of artificial silk increased by 18 per cent in 1926, 32 per cent in 1927, 24 per cent in 1928 and 18 per cent in 1929. As Annex III shows, the textile index in the last fifteen years rose less than any of the others, excepting those for foodstuffs and fuels. The fuel index, however, excludes electric power.

Food and clothing are tending steadily to diminish in importance.

Rubber.

The production of raw rubber advanced exceedingly rapidly during the whole post-war period until 1927, notwithstanding the scheme for restriction adopted in the British-controlled areas in 1922. This scheme was abandoned in November 1928. The total production of 1928, however, remained about 36,000 tons below the high level of the preceding year. The bulk of the drop was attributable to British Malaya where the "standard production" decreased by 23,300 tons; production in most other plantation areas in Asia as well as that of para and wild rubber likewise diminished, while that of the Netherlands East Indies remained practically stationary. In spite of this decrease, total shipments of rubber increased in 1928 by some 6 to 7 per cent, owing to the stocks previously accumulated. The removal of the restriction scheme made itself felt in 1929 when both production and shipments increased more than in any single year of the period under review. Stocks in the United Kingdom decreased from 67,300 tons on December 31st, 1927, to 22,900 tons a year after, but rose again to 74,300 tons on December 31st, 1929.

Wood Pulp.

There has been a slight slackening in recent years in the development of the wood pulp industry and the output in 1928 was only 2 per cent higher than in 1927. Production in Europe showed no increase. The tendency, to which reference has been made in previous years, for chemical pulp to replace mechanical, has continued.

Cement.

As stated above the cement index does not include South or Central America or Africa and is not complete for certain other continents. It is, however, sufficiently representative to afford a fair indication of the growth of this particular industry in the regions to which it relates; these regions, indeed, undoubtedly account for the bulk of the production of the world as a whole. But the index should not be employed as a measure of building activity. It will be seen that production has increased at the rate of a little less than 9 per cent per annum during the period covered by the table. This increase is largely due to the development of the industry in a large number of small producing areas.

Fuels.

The fuel index in 1928 was just under 2 per cent lower than in 1927. This drop was wholly due to the reduction in the output of coal by 39.9 million tons. A stimulus had been given to production in 1927 by the depletion of stocks, owing to the British coal dispute in the previous year. The set-back in 1928 is attributable in part to the long coal stoppage in the central coalfields of the United States of America. In 1929, there was a substantial recovery and, from the preliminary data available, it would appear that the world production in that year was about 11 per cent higher than in 1926.

The production of the other components of this index, namely, lignite and petroleum, increased in both 1927 and 1928, in spite of attempts to control the output of petroleum in the United States. There was a further advance in 1929, and the output of petroleum in that year exceeded that in 1926 by about one-third. In the main producing countries, the most rapid development has taken place in Venezuela and Colombia and, to a lesser extent, in the Union of Soviet Socialist Republics.

Metals.

The statistics of metals on which the index is based relate to smelter production and not to the production of ore. In consequence, the continental distribution in the Annexes must not be interpreted as indicating the ultimate sources of supply. The figures for North America and Europe are much higher, and for the other continents appreciably lower, than they would have been had it been possible to employ data relating to the output of mines.

It will be seen that the index rose about 16 per cent between 1924 and 1926 and again by the same amount between 1926 and 1928. In the last two years there

has been a very substantial increase in the production of nickel, tin, aluminium, copper and steel — in that order. The production of nickel in 1928, according to the information received, was nearly 15,000 metric tons greater than in 1927, an increase of over 45 per cent compared with 1926, when production was somewhat low. But, of all the metals considered, aluminium has shown the most rapid and much the most consistent development during the whole period under review.

The iron and steel industry is dealt with in Chapter IV and need not be discussed here. It may, however, be remarked that it accounts for between two-thirds and three-quarters of the aggregates upon which the metal index is based and that, as a consequence, the movements of that index are largely determined by it.

Chemicals.

The production of heavy chemicals and fertilisers shows a more pronounced advance than that of any other group under consideration — 52 per cent since 1923 and 21 per cent since 1926. The three principal groups of fertilisers considered are phosphates, potash and nitrates. The increase has been least in the phosphates group as a whole, but in certain countries remarkable progress has been recorded : in North Africa in the output of natural phosphates ; in France, Belgium and Luxemburg in that of basic slag ; and in the United States of America and Japan in that of superphosphates. The production of potash, the world monopoly of which is shared by Germany and France, has risen since 1926 by 29 per cent. The increase is mainly due to the development of the Alsatian industry, which has expanded steadily in recent years, while German production has been adversely affected by the drop in domestic demand.

The nitrate industry, the most important branch of the fertiliser group, has, however, shown the greatest advance. In 1927, the production of Chilean nitrate of soda, which was being rapidly replaced by synthetic products, only amounted to little more than half of the pre-war figure ; but it nearly doubled in 1928, and exceeded, for the first time, the 1913 level. The recent progress in the production of manufactured synthetic fertilisers has been particularly marked in Europe, which now produces considerably more than half of the world's total output of fertilisers. The share of South America, however, increased substantially in 1928. It should be noted that in 1929, an agreement was concluded between the Chilean nitrate industry and the largest European producers of synthetic nitrogen.

III. INTERNATIONAL TRADE.

The following tables show the dollar value of world trade in 1926, 1927 and 1928 and the manner in which that trade is divided between different continental groups and, within Europe, between certain divisions of that continent.

TABLE IX.

WORLD TRADE, BY CONTINENTAL GROUPS.

Value in dollars (000,000's omitted).

(Basis: Recorded values; special trade; merchandise ⁽¹⁾ only.)

Continental groups	IMPORTS			EXPORTS			TOTAL		
	1926	1927	1928	1926	1927	1928	1926	1927	1928
1. Central and Eastern Europe:									
(a) Incl. Russia (U.S.S.R.)..	4,530	5,888	6,105	4,368	4,712	5,058	8,898	10,600	11,163
(b) Excl. Russia (U.S.S.R.)..	4,141	5,521	5,619	4,006	4,301	4,654	8,147	9,822	10,273
2. Rest of Europe.....	12,605	12,987	13,359	9,167	10,085	10,200	21,772	23,072	23,559
3. Europe, excluding Russia (U.S.S.R.)	16,746	18,508	18,978	13,173	14,386	14,854	29,919	32,894	33,832
4. Europe, including Russia (U.S.S.R.)	17,135	18,875	19,464	13,535	14,797	15,258	30,670	33,672	34,722
5. North America ⁽²⁾	5,472	5,307	5,376	6,016	6,047	6,494	11,488	11,354	11,870
6. Caribbean ⁽³⁾	696	681	649	871	867	815	1,567	1,548	1,464
7. South America	1,720	1,773	1,908	1,862	2,134	2,235	3,582	3,907	4,143
8. Africa	1,334	1,474	1,558	1,260	1,395	1,498	2,594	2,869	3,056
9. Asia, excl. Asiatic Russia..	4,774	4,605	4,584	5,274	5,117	4,965	10,048	9,722	9,549
10. Oceania	986	1,025	936	952	951	968	1,938	1,976	1,904
TOTAL (groups 4 to 10)....	32,117	33,740	34,475	29,770	31,308	32,233	61,887	65,048	66,708

(1) In the case of a few countries, the figures include bullion and specie or relate to general trade.

(2) i. e., Canada, U. S. A., Newfoundland, Greenland and St. Pierre et Miquelon.

(3) i. e., Mexico to Panama, both inclusive, plus West Indies.

TABLE X.

PERCENTAGE DISTRIBUTION OF WORLD TRADE, BY CONTINENTAL GROUPS.
(Basis: Recorded Values, reduced to dollars; Special Trade; Merchandise (1) only.)

Continental groups	IMPORTS			EXPORTS			TOTAL		
	1926	1927	1928	1926	1927	1928	1926	1927	1928
1. Central and Eastern Europe :									
(a) Incl. Russia (U.S.S.R.)	14.1	17.4	17.7	14.7	15.1	15.7	14.4	16.3	16.7
(b) Excl. Russia (U.S.S.R.)	12.9	16.4	16.3	13.5	13.7	14.5	13.2	15.1	15.4
2. Rest of Europe.....	39.2	38.5	38.8	30.8	32.2	31.6	35.2	35.5	35.3
3. Europe, excluding Russia (U.S.S.R.)	52.1	54.9	55.1	44.3	45.9	46.1	48.4	50.6	50.7
4. Europe, incl. Russia (U.S.S.R.)	53.3	55.9	56.5	45.5	47.3	47.3	49.6	51.8	52.0
5. North America (2).....	17.0	15.7	15.6	20.2	19.3	20.2	18.6	17.5	17.8
6. Caribbean (2)	2.2	2.0	1.9	2.9	2.8	2.5	2.5	2.4	2.2
7. South America	5.4	5.3	5.5	6.3	6.8	6.9	5.8	6.0	6.2
8. Africa	4.1	4.4	4.5	4.2	4.5	4.7	4.2	4.4	4.6
9. Asia, excl. Asiatic Russia...	14.9	13.7	13.3	17.7	16.3	15.4	16.2	14.9	14.3
10. Oceania	3.1	3.0	2.7	3.2	3.0	3.0	3.1	3.0	2.9
TOTAL (groups 4 to 10).....	100	100	100	100	100	100	100	100	100

(1) (2) and (3) See notes to preceding table.

It will be seen from these two tables that Europe accounts for over half of the recorded world trade, North America for over one-sixth and Asia for almost exactly one-seventh. The figures are to some extent affected by the exclusion of freights from the recorded imports of some countries, particularly the United States and Canada. If freights were included throughout, the North-American imports and total trade in 1928 would rise from 15.6 and 17.8 per cent, respectively, to about 16.4 and 18.2 per cent of world imports and total trade, and the shares of Europe would show a corresponding fall. The shares of other continents would remain practically the same.

Trade during the three years shown in the tables was largely influenced by capital movements. In 1926, the net capital exports, not only from the United Kingdom, which suffered from the coal dispute, but also from the United States of America, were on a much lower scale than in earlier years. It is true that subscriptions to foreign capital issues continued on a normal scale, but these were offset by the movement of existing securities and short-term capital; the United Kingdom particularly would appear to have withdrawn large amounts from the Continent of Europe.

In 1927 there was a considerable inflow of capital into Europe. Part of the capital which had left the Continent in the preceding year was repatriated, and some countries which had previously received capital — *e. g.*, India and the Dutch East Indies — recorded a net export. To this in part must be attributed the increase in European trade, particularly imports, which is shown in Table X.

In 1928 capital transfers were on a still larger scale and trade was further stimulated. The net capital exports of the United States of America rose by more than \$600 million, or 130 per cent. British capital exports also increased considerably in this year.

The larger capital movements in 1927 and 1928, rendered available by the increase of savings, was largely due to the demand arising from the re-organisation of industry in Europe and industrial development in other parts of the world. It has naturally affected the composition of world trade. There is a marked increase in the trade in capital goods, more especially in machinery. On the other hand, the trade in certain classes of consumption commodities, more especially of textiles, has fallen off.

* * *

In order to compare the development of international trade with the production of raw materials and foodstuffs, it is necessary to take price changes into consideration. An estimate of the average changes in the prices of the goods entering into international trade cannot, of course, be made with any close precision; but there are reasons for believing that in 1927 and 1928 both import and export prices were approximately 3 per cent lower than in 1926. In 1929 prices fell further.

It is not necessary here to discuss in detail the data upon which the above estimate is based or the principles applied in framing it. The question is treated in a companion publication to this.¹ The procedure here adopted in order to ascertain the growth or contraction of world trade, however, differs from that employed in an earlier section in the case of raw materials. For raw materials, quantum indices, with prices in selected years as fixed weights, are employed. In the table given below the trade of each group of countries for 1927 and 1928 has been divided by the same price index (97), irrespective of the actual prices at which the goods handled by any particular country may have been actually bought or sold. This procedure has been adopted because separate price indices are available for a restricted number of countries only. The effect of the difference of methods employed is likely to be negligible so far as the world as a whole is concerned, but it may not be without importance when the more detailed figures are considered.

(1) See *Memorandum on International Trade and Balances of Payments, 1926-1928, Vol. I.*

For this reason the table should be accepted with reserve and less precision should be attributed to the import or export figures for continents and parts thereof than to figures for total trade and the general trend of development in the years in question.

TABLE XI.

PERCENTAGE CHANGES IN QUANTUM OF TRADE.

Continental groups	IMPORTS			EXPORTS			TOTAL		
	1926	1927	1928	1926	1927	1928	1926	1927	1928
(a) Eastern and Central Europe:									
Excluding Russia (U.S.S.R.)	100	138	140	100	111	120	100	124	130
Including Russia (U.S.S.R.)	100	134	139	100	111	119	100	123	129
(b) Rest of Europe	100	106	109	100	113	115	100	109	112
Europe, excluding Russia (U.S.S.R.)	100	114	117	100	113	116	100	113	117
Europe, including Russia (U.S.S.R.)	100	114	117	100	113	116	100	113	117
North America	100	100	101	100	104	111	100	102	107
Caribbean	100	101	96	100	103	96	100	102	96
South America	100	106	114	100	118	124	100	113	119
Africa	100	114	120	100	114	123	100	111	122
Asia, excluding Asiatic Russia	100	99	99	100	100	97	100	100	98
Oceania	100	107	98	100	103	105	100	105	101
World	100	108	111	100	108	112	100	108	111

Note. — In the case of a few countries, the figures include bullion and specie or relate to general trade.

It will be seen that world trade in 1927 was about 8½ per cent and in 1928 11 per cent greater than in 1926.

The imports of the Caribbean dropped slightly in 1928 and those of Oceania by nearly 9 per cent. This heavy falling-off in Oceanic imports was due mainly to reduced purchases by Australia, whose import values were lower by \$89 million. Australian exports, moreover, were \$36 million lower in 1928 than in 1926 in spite of the high price of wool. There was an insignificant contraction in the imports of Asiatic countries and a much more serious contraction of their exports, amounting to over \$150 million. The exports of British Malaya were seriously affected by the low prices of rubber. Japan also suffered from the steady decline in the price of her principal export — raw silk — and her sales of cotton yarns and tissues fell heavily in 1927 and 1928, mainly, it would appear, as a result of European competition.

Both the imports and exports of Europe and of every group of European countries shown, of North and South America and of Africa, continued to increase. The growth of European trade was, in fact, somewhat greater than the figures show since they are influenced by an apparent decrease in the French trade in pearls and precious stones, due, not to any contraction of business done, but to a change in the method of recording.

The remarkable increase in the quantum of imports of the Central and Eastern European countries, exclusive of Russia, by 40 per cent requires a word of explanation. It is due to some extent to the drop in German and Polish imports in the base year 1926, in consequence of the general contraction in the European capital market to which reference has been made above. Borrowings were resumed on an increased scale in 1927 and 1928, and, although they were used partly, especially in 1928, for gold purchases by the central banks, their influence on merchandise imports was very considerable. The imports of Germany rose by more than 40 per cent over the period and those of Poland by the extraordinary figure of 118 per cent. In 1928 imports of this group were about 2 per cent greater than in 1927. Its exports, however, rose by 8½ per cent and its passive balance of trade, as reference to Table IX will show, was reduced by \$255 million. Indeed, the relative growth of its exports during 1928 exceeded that of any other group, though North American and African exports rose by over 7 per cent.

Of all the continental groups, however, Africa and South America show the greatest progress, both in the year 1928 and during the whole period under consideration. The African totals were mainly influenced by the development of the exports of Egypt and of both the imports and exports of Morocco, Tunis and Algeria.

South-American exports also increased substantially. Those of the Argentine rose by \$242 million in 1927 and again by \$15 million in 1928 as the result of two successive excellent harvests. Brazilian exports in 1928 were \$97 million and those of Chile \$46 million higher than in the preceding year. It should be noted, however, that 1926 was a poor year for several South-American countries, in particular the Argentine and Chile; in the former the wheat exports and in the latter the exports of nitrates were considerably below the average for the three previous years.

* * *

It is not possible to give world or continental totals for 1929 as returns for many countries are not yet available. It would appear, however, from the preliminary data published in a companion volume¹ that, in spite of a considerable fall in the general price level, the value of world trade was greater in this year than in 1928.

In Europe, the only continent for which almost complete figures are available, there was a slight increase in imports and a considerably greater increase in exports. The exports of the Central and Eastern group of countries, including Russia, rose by about 8 %; its imports, however, were lower than in 1928.

(1) See *Memorandum on International Trade & Balances of Payments, 1926-28, Vol. III.*

IV. INDUSTRY.

A general review of the development of industrial activity cannot embrace as many countries and branches of production as do the statistics relating to the output of foodstuffs and raw materials. The great diversity of the products of the manufacturing industries renders a study of industrial production difficult. Further, comprehensive industrial statistics are compiled in relatively few countries and as a rule for a few industries only.

All that can be aimed at, therefore, is a rough survey of general industrial activity in a few countries, and of the trend of development in a few branches of production. For the review of general industrial activity, only those countries which publish indices of production are taken into account. The method employed in compiling such indices varies from country to country. The indices generally cover both mining and manufacturing and, in some cases, also the building industry. They do not, of course, show the relative level of production in the several countries but serve to indicate the changes which have taken place in industrial activity.¹ The review of manufacturing industries is confined to iron and steel, the mechanical and electrical industries, including engineering, the production of electrical current, shipbuilding and motor-car manufacture, as well as textiles.

General Industrial Activity.

The general impression afforded by the data relating to industrial activity confirms the results of the preceding analysis regarding raw materials.

The increase of industrial activity has been particularly marked in Europe. In the earlier years under review, Europe was adversely affected by the instability of the Belgian, French and Italian currencies, the readjustments required in Germany and elsewhere as a consequence of currency reforms just accomplished, and in 1926 by the coal stoppage in Great Britain. In the following year France and Italy were handicapped by the readjustments necessitated by the definite stabilisation of the franc and the lira. In 1928 and the first part of 1929, conditions were, on the whole, relatively favourable and continued to improve. In the second half of 1929, there was a reaction in certain countries.

In Table XII below, indices of production for a number of countries are given.

¹ For details concerning the manner in which these indices are computed, see Introduction to *Monthly Bulletin of Statistics*, 1928, No. 8; 1929, Nos. 3-6 and 9; and 1930, No. 2.

TABLE XII.

INDICES OF INDUSTRIAL PRODUCTION IN VARIOUS COUNTRIES¹.
1925 = 100

Country	1926	1927	1928	1929
<i>America :</i>				
Canada	117	125	138	154
United States	104	102	107	113
<i>Europe :</i>				
France	117	102	118	130
Germany	95	120	120	122
Poland	98	122	138	138
Sweden	103	108	104	127
Switzerland	95	112	117	111
United Kingdom ²		107	106	112
U.S.S.R. (a)	141	172	208	(b)240

¹ The source and original base of each series are indicated in Annex VI.

² Board of Trade Index based on 1924=100.

(a) Year ending September 30th.

(b) October 1928 to August 1929.

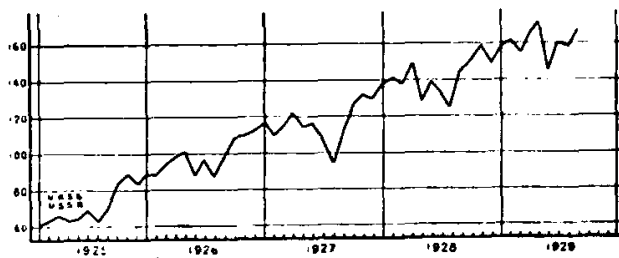
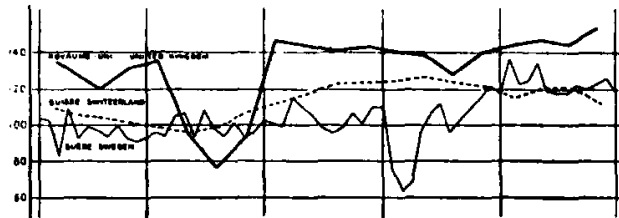
The indices shown are annual averages and do not, therefore, give a perfectly accurate impression of the course of events, which is better illustrated by Diagrams VI to IX giving the monthly indices for the whole period. For these diagrams the year 1926 is taken as the base period in order to permit of comparison with the diagrams given in Chapter I. A common scale is employed in all cases.

The Canadian index, which shows an astonishing rise during the period, relates mainly to mining and the simple forms and early stages of manufacture. Thus it covers milling, sugar manufacture, butter and cheese making, slaughter statistics, the production of pig-iron and crude steel and of news-print paper. The development of the textile industry is shown by two series based on the imports of raw cotton and wool, and that of petroleum refining is indirectly measured by the imports of crude petroleum. The only highly finished products directly measured are motor-vehicles. The industrial growth in recent years has been so remarkable that it may be interesting to set out the annual progress since 1924 :

1925 as percentage of 1924 = 107 1928 as percentage of 1927 = 111
 1926 as percentage of 1925 = 117 1929 as percentage of 1928 = 112
 1927 as percentage of 1926 = 107

INDICES OF PRODUCTION

1926 = 100



The highest monthly figure was reached in January 1929, since when there has been some falling off.

The index of production for the United States, which is compiled by the Federal Reserve Board, includes mining and covers sixty series of returns relating to thirty-five industries. "It includes many commodities which enter as materials into great numbers of other factory products and thus serves as a fairly close measure of variations in manufacturing activity, especially over relatively short periods."¹ It will be seen from the diagram that the index rose steadily, indeed, in the latter part of that period, rapidly, up to the middle of 1929, except for a temporary check in 1927. This check was due largely to the temporary closing down of one of the large motor-car plants. Production declined in the latter half of 1929; this decline, which was greatly accelerated in the last two months by the repercussions of the Stock Exchange slump, spread far beyond the frontiers of the United States, as an inspection of the diagrams will show.

The French index covers mining, textiles, the heavy metal industries, various forms of engineering, including shipbuilding and the manufacture of motor-vehicles, building, pulp-paper manufacture and rubber. It will be seen that a rapid and very remarkable recovery was made from the temporary setback caused by the *de facto* stabilisation of the franc, and by the end of December 1929 the French index stood higher compared with 1925 than that of any other country for which data are available, except the U.S.S.R.

The German index includes thirty-one distinct series, of which one-half are basic industries — mining, heavy metals, production of cement, bricks, etc. — and the other half finishing industries, such as engineering, manufacture of textiles, shoes, porcelain, pianos, clocks and watches, etc. The development in Germany has been irregular and is better followed from the diagram than from the table. It will be seen that there was a rapid recovery in 1926-27 from the depression which set in towards the end of 1925. During the last two years, the position has been fairly held without any marked increase in production.

The Polish index likewise covers the whole range of production from mining to finished textile products, although, owing to the industrial structure of the country, the basic industries predominate. Textiles, however, constitute 20 per cent of the whole. The general movement has not been dissimilar from that in Germany, although the extent of recovery since 1925 has been somewhat greater.

Different indices for the United Kingdom are shown in the table and in the diagram, as the official index does not cover the years 1925-26. The official index embraces mining, quarrying, production of iron and steel and manufactures thereof, non-ferrous metals, engineering and shipbuilding, textiles, chemicals and allied trades, paper, building, leather, boots and shoes, food, drink and tobacco, gas and electricity. The index given in the diagram, which is less comprehensive, lies habitually somewhat below the official index. Thus the average figures for 1929

¹ United States Department of Commerce: *Commerce Year-Book*, 1929, Vol. 1, page 2.

were 110.6 and 111.6.¹ It should be observed that the base year 1926 employed for the purposes of the diagram is quite unsuitable for the United Kingdom, as production was largely arrested that year by the coal dispute. The significance of the diagram lies only in the quarterly fluctuations shown in the other years given and not in the extent to which the major portion of the diagram lies above its base. The reaction which took place in the third quarter of 1928 resulted in the total production in that year being slightly lower than in the preceding year. In 1929, there was an appreciable recovery which continued in the last quarter in spite of the widespread depression in December.

The Swedish index, owing to the economic structure of the country, reflects mainly the conditions obtaining in industries employing wood as their raw material and in the heavy metal industries. Wood, pulp and paper account for well over half of the total. Labour disputes, particularly in the first quarter, seriously affected the production figures for 1928, in spite of rapid improvement in the last two quarters of that year. Remarkable progress was made in 1929.

The index for Switzerland is completely different in character from those given for other countries and is based on returns to a questionnaire sent out to a large number of manufacturers requesting them to indicate the general activity of their works. The index rose steadily for two years from the second quarter of 1926. Since the middle of 1928, however, there has been a slow general downward trend.

The Russian index covers both the mining and manufacturing industries in the proportion of 27 to 73. Heavy industries and textiles predominate in the latter group, which also includes leather, paper and tobacco. Since the end of 1927 the figures indicate a remarkable increase in activity, which reflects the effort towards industrialisation that has been made in this country in recent years.

It is interesting to observe the different rates of industrial development in "old" and in "new" industries during recent years. Raw cotton consumption increased between 1924-25 and 1928-29 by 12 per cent, whereas the output of artificial silk more than doubled in the same time. Within the group of fertilisers, the output of Chilian saltpetre increased between 1925 and 1928 by 31 per cent and that of synthetic nitrogen by 82 per cent. A still more striking example is furnished by the lighting industry; the consumption of gas mantles declined by 5 per cent in the three years 1925 to 1927, while that of electric lamps rose by 31 per cent. In the domain of the power industries, the increased use of petroleum and the progress of electrification have hampered the development of coal-mining; between 1925 and 1928 the output of coal rose by nearly 4 per cent, whereas that of petroleum and electricity increased by 24 and 40 per cent respectively. Moreover, the world production of coal in 1925 was no greater than it was in 1913.

¹ Based on 1924 in both cases.

Iron and Steel Industry.

As was shown in the study of raw materials, the production of pig-iron and raw steel increased continuously from 1923 to 1928 and 1929. Figures for individual countries are given in Table XIII.

TABLE XIII (a)

PRODUCTION OF PIG-IRON.

Countries	Output in metric tons (000's)					Output in 1929 as percentage of that in 1925	Output as percentage of world total	
	1925	1926	1927	1928	1929		1925	1929
<i>North America</i>	37,863	40,798	37,896	39,836	44,072	116.4	49.5	45.1
Canada	606	828	779	1,100	1,108	182.8	0.8	1.1
United States of America	37,257	39,970	37,117	38,736	42,964	115.3	48.7	44.1
<i>Asia</i>	1,994	2,221	2,635	2,714	3,000	150.5	2.6	3.1
Japan	932	1,135	1,268	1,520	1,750	187.7	1.2	1.8
<i>Europe</i>	38,198	34,948	45,271	45,253	50,100	138.1	47.3	51.2
European Steel Entente (Western Group) . . . . .	.	.	30,537	30,512	32,949	.	.	33.7
Belgium	2,543	3,368	3,709	3,905	4,096	161.1	3.3	4.2
France	8,505	9,430	9,236	10,097	10,441	122.8	11.1	10.7
Germany	10,089	9,636	13,089	11,804	13,401	132.8	13.2	13.7
Luxemburg	2,363	2,559	2,732	2,770	2,906	123.0	3.1	3.0
Saar Basin	1,453	1,625	1,771	1,936	2,105	144.9	1.9	2.2
Czechoslovakia	1,166	1,088	1,260	1,569	1,642	140.8	1.5	1.7
Italy	482	513	489	507	678	140.7	0.6	0.7
Poland	315	327	618	684	706	224.1	0.4	0.7
United Kingdom	6,362	2,498	7,410	6,717	7,701	121.0	8.3	7.9
U.S.S.R.	1,290	2,207	2,963	3,281	4,318	334.7	1.7	4.4
WORLD	76,566	78,508	86,414	88,289	97,700	127.6	100	100

TABLE XIII (b)
PRODUCTION OF STEEL

Countries	Output in metric tons (000' s)					Output in 1929 as percentage of that in 1915	Output as percentage of world total	
	1925	1926	1927	1928	1929		1925	1929
<i>North America</i>	46,887	49,858	46,578	53,631	56,436	120.4	51.8	47.7
Canada	765	789	922	1,260	1,402	183.3	0.8	1.2
United States of America	46,122	49,069	45,656	52,371	55,034	119.3	51.0	46.5
<i>Asia</i>	1,807	2,087	2,298	2,414	2,750	152.2	2.0	2.3
Japan	1,300	1,506	1,685	1,685	2,100	161.5	1.4	1.8
<i>Europe</i>	41,236	40,958	52,278	53,450	58,600	142.1	45.6	49.5
European Steel Entente (Western Group)			32,517	32,478	34,955			29.5
Belgium	2,549	3,374	3,680	3,934	4,132	162.1	2.8	3.5
France	7,464	8,617	8,306	9,387	9,666	129.5	8.3	8.2
Germany	12,119	12,264	16,167	14,517	16,246	134.1	13.4	13.7
Luxemburg	2,084	2,344	2,471	2,567	2,702	130.0	2.3	2.3
Saar Basin	1,575	1,736	1,893	2,073	2,209	140.3	1.7	1.9
Czechoslovakia	1,476	1,344	1,692	1,992	2,151	145.7	1.6	1.8
Italy	1,786	1,780	1,595	1,963	2,149	120.3	2.0	1.8
Poland	782	788	1,244	1,433	1,377	176.0	0.9	1.2
United Kingdom	7,504	3,654	9,243	8,656	9,810	130.7	8.3	8.3
U.S.S.R.	1,868	2,911	3,552	4,156	5,048	279.1	2.1	4.3
WORLD	90,447	93,400	101,717	110,000	118,300	130.8	100	100

The increase from 1925 to 1929 was 27 per cent in the case of iron and 30 per cent in that of steel. The persistent rise in the world totals is the more noteworthy, as the production was disturbed in one or another of the great centres of production in the majority of the years under review: by the British coal stoppage in 1926, the effects of which extended to the iron and steel industry; by the temporary closing down of one of the most important motor-car plants in America in 1927; and by the industrial dispute in the Ruhr works in 1928.

The world production of steel in 1927 slightly exceeded 100 million tons, of which Europe accounted for over one-half. The following year the output of North America increased by over 7 million tons, with the result that, in 1928 and 1929, the output of the two continents was practically equal.

Since the formation of the "European Steel Entente", of which the western group¹ covers about two-thirds of the pig-iron output and 60 per cent of the steel output in Europe, three main groups of iron and steel producers may be distinguished, whose shares in the world production were in 1929 as follows:

¹ The Central European Group, comprising several of the minor producers, is more loosely connected with the Entente.

1. The United States : 44 per cent of pig-iron and 47 per cent of steel.
2. European Steel Entente (Western Group) : 34 per cent and 30 per cent respectively.
3. The United Kingdom : 8 per cent of each product.

The output of all other producers amounts to 14 per cent and 15 per cent respectively.

Of the total quantity of iron and steel entering into international trade, the Belgo-Luxemburg Union, France-Saar, Germany, and the United Kingdom are each responsible for an approximately equal share — a little over one-fifth each in 1928. The United States have advanced their exports more rapidly than the other major producing countries and the United Kingdom less rapidly.

In the last two years prices, which sagged in 1927 and 1926, have advanced, as the following rough indices demonstrate :

	1925	1926	1927	1928	1929
Germany (Stabeisen Oberhausen).	100	101	101	105	107
Belgium (Barres, free station)	100	90	87	103	106
France (Aciers march. Eastern works)	100	99	88	100	109
Great Britain (Middlesbrough, rounds and squares $\frac{3}{8}$ to 3 in., free destination)	100	93	93	88	90
United States (Pittsburgh, steel bars, <i>ex</i> works)	100	99	91	93	95

The quotations on which these indices are based are, of course, not strictly comparable and for this reason the absolute figures have not been given. These latter show clearly, however, that there has been a tendency in recent years for prices in different countries to draw closer together.

Mechanical Engineering.

Owing to the diversity of the products of the mechanical engineering industry, no uniform measure of production is possible. The variation in the activity of this industry in certain countries may, however, be roughly gauged from the indices of production which have been compiled. Further, relatively complete information is available with reference to certain branches. Thus it is known that the tonnage of ships launched increased by about 27 per cent between 1925 and 1929, and it is estimated that the output of motor-vehicles rose in the same period by over 30 per cent. The following figures, extracted from a companion volume to this,¹ of the exports of machinery from certain of the major producing countries, show that, during the period 1925-28, the total value increased by approximately 30 per cent.

¹ *Memorandum on International Trade and Balances of Payments, 1926-1928, Vol. 1, Geneva 1929.*

	£ (000,000's)	
	1925	1928
United Kingdom	236.6	261.3
Germany	158.3	244.1
France	58.9	75.9
United States of America	367.9	497.2
Austria	11.7	14.4
Switzerland	36.0	45.1
Total	869.4	1,138.0

These miscellaneous sources of information suggest that the production of the engineering industry, taken as a whole, probably increased by some 25 per cent or more between 1925 and 1929. This progress no doubt reflects largely the steps being taken at the moment, especially in Europe, to improve industrial equipment.

The above estimate would seem to be confirmed by the indices of engineering production published by certain countries. These indices vary in scope and method of compilation and cannot be directly compared.

The following French index relates to the treatment of iron and is indirectly calculated from the consumption of raw steel :

	1925	1926	1927	1928	1929
France	100	117	103	123	139

The movement is similar to that of the general index of production.

The German Institut für Konjunkturforschung publishes an index based on machines dispatched, the annual averages of which are as follows :

	1925	1926	1927	1928	1929
Germany	100	85	112	122	121

The great increase in activity shown in 1927 and 1928 was due mainly to foreign demand ; home consumption, it is stated, has fallen. For this reason the figures relating to exports of machines quoted above tend somewhat to exaggerate the total demand to-day and the increase in that demand during the four-year period covered.

The index compiled by the British Board of Trade covers at once engineering proper and shipbuilding. It is based on the average for the year 1924 :

	1924	1927	1928	1929
United Kingdom	100	115	113	121

As the tonnage of ships launched in 1929 was about 6 per cent greater than in 1924, it may be presumed that the expansion of the other branches of engineering has been greater than the index suggests. On the other hand, as the figures quoted above show, exports by value in 1928 were only 11 per cent greater than in 1925.

The Swedish Board of Trade publishes an index of the value of the gross production of the engineering and shipbuilding industries based on 1913 prices, which has moved as follows :

	1925	1926	1927	1928
Sweden	100	119	124	151

The remarkable advance indicated by the figures is largely due to the activity of the Swedish shipyards, which doubled their output during the period under review. Consequently, the development of the engineering industry proper has been considerably less than the general index would suggest.

No direct measurement exists for the United States, but "the demand for foundry equipment and for machine tools" is considered "a significant indicator of the prospective activity anticipated by the machinery manufacturing industry".¹ The annual indices for such orders were :

United States	1925	1926	1927	1928
Machine tools	100	108	92	158
Foundry equipment	100	106	93	130

Shipbuilding.

The total tonnage of ships of over 100 tons register launched in 1929 amounted to 2,793,000, and was greater than in any year since 1921. Indeed, there has been steady progress year by year since 1926, when a number of the British yards were temporarily closed down, and, in so far as it is possible to judge from the figures of tonnage under construction, which amounted to 3,111,000 tons at the end of 1929, there appear to be reasonable grounds for presuming that this improvement will continue in the near future. It is clear from these figures and from those given in the table below that the shipbuilding industry is gradually recovering from the depression from which it suffered after the largely artificial boom of 1920 and 1921.

¹ *Commerce Year-Book*, 1929, Vol. 1, page 429.

TABLE XIV.
SHIPBUILDING.

(All vessels, including sailing vessels.)

Country	Tonnage launched Tons gross (000's omitted).			Tonnage launched as per cent of that in 1925				Tonnage launched as per cent of world total.	
	1925	1928	1929	1926	1927	1928	1929	1925	1929
<i>North America :</i>									
United States (Coast) ¹ . . .	78.8	91.0	100.6	146	158	115	128	3.6	3.6
<i>Asia :</i>									
Japan	55.8	103.7	164.5	94	76	186	295	2.5	5.9
<i>Europe :</i>									
Denmark	73.3	138.7	111.5	98	98	189	152	3.3	4.0
France	75.6	81.4	81.6	161	59	108	108	3.4	2.9
Germany	406.4	376.4	249.1	44	71	93	61	18.5	8.9
Italy	142.0	58.6	71.5	155	71	41	50	6.5	2.6
Netherlands . . .	78.8	166.8	186.5	119	152	212	237	3.6	6.7
Sweden	53.8	106.9	107.2	100	125	199	200	7.5	3.8
United Kingdom .	1,084.6	1,445.9	1,522.6	59	113	133	140	49.4	54.5
WORLD	2,193.4	2,699.0	2,793.2	76	104	123	127	100	100

¹ Excluding Great Lakes.

The launchings in 1929 exceeded those in 1925 by about 660,000 tons, of which the United Kingdom contributed over two-thirds. As a result, her share in the world's totals rose from 48 to 55 per cent. In spite of this, however, her shipyards were by no means fully occupied.

The second largest shipbuilder to-day is Germany. But her output has diminished substantially since 1925 and, as will be seen from the table, has fluctuated widely from year to year.

Sweden and Denmark passed the 100,000-ton mark for the first time in 1928, and are both producing to-day more sea-going vessels than the United States. The Netherlands and Japan have also made a remarkable recovery from the depression of preceding years.

Motor-Vehicles.

Only a limited number of countries publish statistics of the manufacture or sale of motor-vehicles. But it is possible to make a rough estimate from the statistics of car registrations and the statistics of imports and exports. For a

number of reasons, into which it is not necessary to enter here, such calculations can only be of approximate accuracy, and the totals obtained are of course not the totals of like units. All forms of vehicles are arbitrarily treated as equal. So long as the composition of the motor fleets of the different countries does not vary greatly, this fact may not have any great significance; but, in view of the rapid changes which the industry has been undergoing, this form of measurement can clearly only be safely undertaken over relatively short periods of time.

The United States Department of Commerce has issued an estimate of world output which includes the major part of the period considered in this *Memorandum*. The main results are summarised in Table XV.

TABLE XV.
PRODUCTION OF MOTOR-VEHICLES

Country	Number (000's)					1928 as percentage of 1925
	1925	1926	1927	1928	1929	
1. <i>North America</i>	4,427	4,506	3,580	4,601	5,621	104
<i>Canada</i>	161	205	179	242	263	150
<i>United States of America</i> .	4,266	4,301	3,401	4,359	5,358	102
2. <i>Europe</i>	466	529	579	602	...	129
3. Total of 1 and 2	4,893	5,035	4,159	5,203	...	106
4. North America as percentage of total given	90	90	86	88	...	—

According to these statistics, North America accounts for about nine-tenths of world output, though the proportion was slightly lower during the last two years given in the table. It was affected in 1927 by the temporary closing down of one large plant. Of the European production, the United Kingdom and France probably account together for about two-thirds.

The wide fluctuations in total production shown in the table are, of course, mainly determined by conditions in the United States. One million less vehicles were produced in 1927 than in either the preceding or succeeding year and a million more in 1929 than in 1928. The annual fluctuations in this single country thus substantially exceeded the total European production.

The statistics for Europe are no doubt less accurate than those for North America, being based largely or wholly on estimates and not on direct returns. They indicate that European production has increased by about 29 per cent in the period 1925-1928. A comparison of the production and export figures for the United States shows that the proportion of the total production of motor-vehicles

exported increased from 8 per cent in 1925 to 12 per cent in 1929. The exports of the major European producers, except the United Kingdom, have fallen during recent years.

TABLE XVI
MOTOR-CAR EXPORTS.

Country and category	Number (000's)					Value in \$ (000,000's)				
	1925	1926	1927	1928	*1929	1925	1926	1927	1928	*1929
<i>North America.</i>										
<i>Canada :²</i>										
Passenger cars ¹	61.5	51.3	31.7	72.1	50.2	29.4	24.9	19.2	31.2	23.2
Lorries ¹	19.2	20.4	15.1	31.5	29.7	6.3	6.9	5.6	11.8	12.1
Total	80.7	71.7	46.8	103.6	79.9	35.7	31.8	24.8	43.0	35.3
<i>United States :</i>										
Passenger cars ¹	244	238	279	368	339	184.9	176.4	208.0	263.6	234.3
Lorries and buses ¹	59	67	106	139	197	37.7	47.2	70.1	91.3	111.4
Total	303	305	385	507	536	222.6	223.6	278.1	354.9	345.7
Parts (excluding engines and tyres)						85.7	90.8	106.3	139.4	190.6
Engines only	146	118	97	124	95	15.3	12.5	10.9	13.0	10.2
<i>Europe.</i>										
<i>France :</i>										
Passenger cars ¹	59.0	54.7	46.9	*40.9	39.1	102.2	70.3	61.1	*53.3	48.6
Lorries ¹	4.8	5.1	5.2	*5.1	9.9	8.7	7.2	6.8	*7.1	12.8
Total	63.8	59.8	52.1	*46.0	49.0	110.9	77.5	67.9	*60.4	61.4
<i>Germany :</i>										
Passenger cars ¹	1.5	1.4	2.7	4.6	4.8	3.2	2.3	3.9	6.3	7.7
Lorries ¹	1.1	0.8	1.4	3.4	3.4	2.4	2.3	2.5	5.0	5.6
Total	2.6	2.2	4.1	8.0	8.2	5.6	4.6	6.4	11.3	13.3
<i>Italy :</i>										
Motor-cars ¹	29.1	34.2	33.3	*28.3	23.7	26.6	27.6	31.2	*21.5	18.6
<i>United Kingdom :</i>										
Passenger cars (complete) . .	17.8	14.9	16.1	18.2	24.2	20.2	15.7	17.1	17.6	21.3
Lorries (complete)	1.5	1.2	1.7	1.4	2.6	4.3	2.8	5.3	3.7	4.9
Chassis for passenger cars . .	9.7	16.4	17.8	8.0	9.9	11.3	16.3	18.6	4.6	5.3
Chassis for lorries				4.9	5.6				8.6	9.4
Total	29.0	32.5	35.6	32.5	42.3	35.8	34.8	41.0	34.5	40.9
GRAND TOTAL³	508.2	505.4	556.9	*725.4	739.1	437.2	399.9	449.4	*525.6	515.2

* Provisional figures.

¹ Including chassis.

² Years beginning April 1st.

³ Parts and engines exported from the United States are not included.

It will be seen that the value of the exports of France, Italy and the United Kingdom was lower in 1928 than in 1925. British exports, however, rose by nearly 6½ million dollars in 1929 and French by almost exactly 1 million dollars. Exports from Germany have risen steadily since 1926. After a phenomenal increase in 1927 and 1928, exports from the United States were checked in 1929. The value of complete cars and chassis sold abroad dropped in that year by over 9 million dollars. This drop, however, was more than offset by the continued growth in the exports of parts.

Electrical Industry

Owing to the miscellaneous character of the products of the electrical industry, it is almost more difficult than in the case of mechanical engineering to gauge, even approximately, the development which is taking place. That that development is considerable is, however, beyond doubt. According to an unofficial estimate submitted to the World Economic Conference and published in the documentation of that Conference, the world production of electrical goods in 1925 amounted to about 3 milliard dollars. An estimate, compiled on a comparable basis by the same experts¹ for the year 1927 gives 3.45 milliard dollars, an increase of 14 per cent. Since then a further substantial advance has been made and the value of the exports of the most important trading countries in 1928 was about 30 per cent greater than in 1925. In the two years 1925-27 exports increased by 16 per cent, and in the following two years by about 14 per cent. German domestic consumption in the last couple of years probably expanded somewhat less than her exports, and French domestic consumption certainly expanded very substantially, while exports dropped. These figures seem to confirm the unofficial estimate of production just mentioned and it is not improbable that the rate of increase quoted continued throughout the quinquennium and that there was, therefore, an expansion of output during the period in the neighbourhood of 30 per cent.

The following table gives the value of the exports of the electrical industry of various countries in terms of dollars.

¹ Reichsverband der deutschen Industrie, Fachgruppe Elektrotechnik.

TABLE XVII.
EXPORTS OF ELECTRICAL GOODS.

	\$ (000,000's)				1929 as percent- age of 1925
	1925	1927	1928	*1929	
<i>America.</i>					
United States of America	84	99	107	...	(a)127
<i>Europe.</i>					
France	19	15	*15	18	95
Germany	84	103	126	146	174
Netherlands	13	17	25	50	385
Sweden	10	15	19	17	170
Switzerland	10	10	14	14	140
United Kingdom.	85	91	90	96	113
Total	305	350	*396	...	...
Total as percentage of 1925	100	115	130	...	—

(a) 1928 as percentage of 1925.
* Provisional figures.

The definition of the term "Electrical Industry" is not uniform in all countries, and the classification of electrical goods in the trade returns varies. But, in so far as possible, the above statistics have been compiled on a uniform basis and embrace electrical machinery (motors, dynamos, transformers, etc.), bulbs, electric installation materials, boiling apparatus, radio receivers, electrometers cables, etc. Since 1927, the value of the German exports exceeded those of any other country. In the first of the five years given, the difference in the totals of Germany, the United States of America and the United Kingdom was under 1.5 million dollars. In 1929, German exports exceeded those of the United Kingdom by 50.2 million dollars. The most rapid progress, however, was made not by Germany but by Sweden and the Netherlands. The economic development of Sweden (whose industries are somewhat specialised) in post-war years has, as her indices of production show, been very remarkable. There has also been in recent years a very rapid industrial development in the Netherlands, which is reflected in certain of the tables contained in this chapter.

Electrical Energy

Statistics of electrical current generated are available for a considerable number of countries, but are, in the majority of cases, incomplete. Those for Germany, Belgium, Poland, Sweden, Russia and Japan cover the whole national production. The Canadian, Dutch, French, Italian and Swiss figures are believed

to account for about 90 per cent of the total. The British figures account for rather less than 90 per cent and those for the United States for rather more.

On the basis of the available information it would appear that the production of electric current increased by about one-third between 1925 and 1928, a figure which may be compared with that given for electrical products above.

Owing to the incompleteness of the statistics, it is not possible to estimate with precision the national contributions to the totals; but the United States has developed the generation of electric current to a far greater extent than any other country and probably accounts for 45 per cent or more of the world production. The joint output of the United States and Canada must be over one-half of the world total. The output per head, however, is greater in both Canada and Switzerland than it is in the United States.

The relative rate of growth in different parts of the world is indicated in the following table, in which the countries are grouped according to the approximate percentage increase between 1925 and 1928.

TABLE XVIII.
RATE OF INCREASE IN THE PRODUCTION OF ELECTRICAL CURRENT.
1925 TO 1928.

Group	Percentage increase	Countries	Group	Percentage increase	Countries
I	11-20	(a) Roumania	III	31-40	France
		Denmark			Italy
		(a) South Africa	IV	41-50	Germany
		Sweden			Australia
II	21-30	(a) Finland	V	51-60	Netherlands
		(a) Spain			Poland
		United Kingdom				Switzerland
		United States	VI	125	Canada
		(a) Japan			U. S. S. R.

Source : See *International Statistical Year-Book 1929*, where absolute figures are given.
(a) Production in 1927 as percentage of that in 1925.

It should be observed that several of the countries whose indices are above the average, such as Belgium, the Netherlands, Poland, Australia and New Zealand, generate only a small amount of current. New Zealand's production is, indeed, quite negligible. Much more important than the progress achieved by these minor producing countries is the all-round advance of about 30 per cent. The uniformity of the rate of increase of about one-quarter to one-third during the period given is, indeed, very remarkable.

Textiles

The textile industry as a whole constitutes a striking contrast to those which have been considered above. It has been shown that the production of steel in the quinquennium ending 1929 increased by about 30 per cent, the estimated

output of motor-cars by over 30 per cent, engineering in general by some 25 per cent, electrical engineering and the production of electrical current by 30 per cent or more, while the indices in Chapter II show a growth in the production of heavy chemicals by 22 per cent and of wood pulp by 20 per cent. The textile raw materials index in 1929, on the other hand, was probably only about 109, and this index is influenced by the very remarkable increase in the quantity of artificial silk produced and to a lesser extent by the rise in the sales of natural silk in the world markets. The increase in the production of most of the major or coarser textiles was still lower. Thus, cotton rose between 1925-26 and 1928-29 by only 6 per cent. Hemp fell by 11 per cent and flax by 9 per cent between 1925 and 1928. Similarly, during the last two years there has been a tendency for the development of the wool industry to be arrested. Further, although it is true that the production and exports of artificial silk continued to rise, the total value of world exports of this product dropped in the last 12 months under review.

In the following table the indices of textile production for those countries for which they are compiled are given :

TABLE XIX.
INDICES OF PRODUCTION IN THE TEXTILE INDUSTRY.
1925 = 100

Country	1926	1927	1928	1929
<i>America :</i>				
United States ¹	100	109	103	111
<i>Europe :</i>				
France ²	107	98	109	101
Germany ³	83	107	94	(a) 84
Poland ⁴	95	141	147	131
Sweden ⁵	112	120	125	...
United Kingdom ⁶ . . . . .	.	102	100	99

¹ Federal Reserve Board.

² Statistique Générale.

³ Institut für Konjunkturforschung (Old index based on 1924/26).

⁴ Conjunction Institute.

⁵ Kommerskollegium.

⁶ Board of Trade ; figures for 1925 and 1926 are not available ; this calculation is therefore based on 1924.

(a) January to September 1929.

The composition of the indices given in the table varies considerably. That for France refers to the cotton, wool and silk industries, and is based on average output of cotton per spindle and per loom, spinning and weaving being combined in the proportion of 7 : 12, wool conditioned at two manufacturing centres and silk conditioned at Lyons. The German index refers to the yarn production of cotton and linen and the quantity of hemp yarn despatched. It does not include the production of artificial silk. The British, Polish and Swedish indices are much

wider in their scope. The Polish index covers cotton spinning, weaving, bleaching, dyeing and printing, the woollen and worsted industry, jute, silk and artificial silk. The Swedish index includes the production of cotton and woollen yarn and cloth, linen, jute and hemp spinning, linen and jute weaving, rope-making, hosiery, etc. That for the United Kingdom covers cotton spinning, weaving, bleaching, dyeing and printing, the woollen and worsted industry, jute, silk, artificial silk, linen and hosiery; that for the United States, the production of cotton, woollen and worsted goods and silk manufactures, and is based on the mill consumption of raw material and on spindle and loom activity for wool and silk.

As a general rule, the indices which cover the greatest range of industries tend to rule highest, a fact which was to be expected, as it is the major branches of the industry, namely, cotton and wool spinning and weaving, which, in recent years, have been most depressed. Thus, if hosiery be omitted from the Swedish calculations, the index for that country in 1928 drops from 124 to 120. Hosiery is, indeed, one of the branches of the textile industry which has made very remarkable progress in recent years. Indeed, in Sweden, while the total textile index, excluding hosiery and ready-made clothing, was, in 1928, only 9 per cent above the 1913 level, the hosiery index was 96 per cent higher. Unfortunately, it is only for a relatively few countries that details about this particular branch are available.

The table shows that, with the exception of Sweden and Poland, the development of the textile industry as a whole in the last five years has been relatively slow, and that there was a steady decline in industrial activity in 1929 in all the countries under review, excepting the United States. The activity in the textile industry in the United States has closely followed the general economic development in that country. It increased steadily until the middle of 1929, but declined suddenly towards the end of the year.

In studying the table, however, it is necessary to bear in mind, first, that certain important textile countries, — such as, for instance, Czechoslovakia, Italy and Switzerland — are omitted; and, secondly, that the indices are composite and are, in some cases, unduly raised by the inclusion of artificial silk. In all cases the computations are made with fixed weights and do not, therefore, take into account the very substantial fall in the price of artificial silk in the last few years. They refer to quantities and not to values. They indicate the volume of production but not the profits earned.

Cotton

In Table XX below is given the consumption of raw cotton in all the countries for which the Federation of Master Cotton Spinners' Associations obtains information. The original figures are converted into metric tons at the rates indicated at the foot of the table. It should be observed that the scope of the statistics is not quite worldwide and that the Continental totals refer to those countries from which the facts have been ascertained and not necessarily to the whole area of the respective continents.

TABLE XX

COTTON MILL CONSUMPTION FROM 1924-25 to 1928-29.

Metric tons (000's omitted).¹

Countries	American cotton					East Indian cotton					Egyptian cotton				
	1924-25	1925-26	1926-27	1927-28	1928-29	1924-25	1925-26	1926-27	1927-28	1928-29	1924-25	1925-26	1926-27	1927-28	1928-29
North America	1,210	1,273	1,412	1,343	1,399	5	4	4	4	5	37	41	49	49	48
Canada	32	41	38	39	44	—	—	—	—	—	—	1	3	1	3
United States	1,178	1,231	1,374	1,304	1,355	5	4	4	4	5	37	40	46	48	45
Caribbean and S. America	—	1	—	—	—	—	—	—	—	—	1	—	—	—	—
Brazil	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mexico	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—
Asia	154	202	350	302	286	623	640	629	507	564	14	12	14	13	13
China	14	24	55	59	56	51	73	69	46	60	—	—	—	1	—
India	2	2	70	28	10	351	302	328	275	281	3	2	1	1	1
Japan	138	176	226	215	220	221	265	233	136	223	11	10	13	11	13
Europe :															
Including U. S. S. R.	1,268	1,255	1,372	1,415	1,302	193	184	140	162	200	227	210	224	218	222
Excluding U. S. S. R.	1,206	1,201	1,294	1,317	1,224	193	184	140	162	200	215	196	203	197	205
Belgium	30	35	41	43	44	22	23	19	22	26	6	1	1	1	2
Czechoslovakia	68	71	81	87	75	18	15	10	12	14	6	6	7	6	7
France	161	167	165	165	165	24	24	24	27	32	31	31	29	28	31
Germany	183	176	242	255	204	32	30	26	32	38	17	12	19	18	20
Holland	21	24	26	29	30	4	4	4	5	6	—	—	—	—	—
Italy	128	142	136	141	149	43	38	28	27	34	16	15	14	14	15
Poland	33	32	54	64	42	4	3	5	4	3	2	2	4	3	5
United Kingdom	468	418	415	389	381	27	25	12	18	27	129	114	107	104	106
U. S. S. R.	62	54	78	98	78	—	—	—	—	—	12	14	21	21	17
Various countries n. e. i.	14	10	15	14	23	5	6	4	4	7	3	4	5	4	4
Total	2,646	2,740	3,149	3,075	3,009	826	834	778	677	775	282	267	292	278	287
Total as percentage of 1924-25.	100	104	119	116	114	100	101	94	82	94	100	95	104	99	102

Countries	Sundries					Total					1928-29 as percentage of 1924-25	Consumption as percentage of world total	
	1924-25	1925-26	1926-27	1927-28	1928-29	1924-25	1925-26	1926-27	1927-28	1928-29		1924-25	1928-29
North America	13	12	13	13	11	1,265	1,330	1,478	1,403	1,463	116	28	29
Canada	—	—	—	—	—	32	42	41	40	47	147	1	1
United States	13	12	13	13	11	1,233	1,287	1,437	1,363	1,416	115	27	28
Caribbean and S. America	144	200	125	148	127	145	201	125	146	127	88	3	3
Brazil	106	156	89	110	94	106	156	89	110	94	89	2	2
Mexico	38	44	37	38	33	38	45	37	38	33	87	1	1
Asia	304	261	272	329	296	1,095	1,115	1,265	1,151	1,159	106	25	23
China	239	229	237	281	256	304	326	361	387	372	122	7	7
India	14	7	12	11	12	370	313	411	315	304	82	8	6
Japan	50	26	23	37	28	420	477	495	449	483	115	9	10
Europe :													
Including U. S. S. R.	234	397	343	406	457	1,922	2,046	2,079	2,201	2,181	113	43	44
Excluding U. S. S. R.	87	111	141	147	117	1,701	1,692	1,778	1,823	1,746	103	38	35
Belgium	2	3	5	2	11	60	62	66	78	83	138	1	2
Czechoslovakia	1	1	1	1	1	93	93	99	106	97	104	2	2
France	10	15	40	15	16	226	237	258	235	244	108	5	5
Germany	5	4	5	7	6	237	222	292	312	268	113	5	5
Holland	—	1	1	—	—	25	29	31	34	36	144	1	1
Italy	4	4	4	4	38	191	199	182	186	236	124	4	5
Poland	2	1	1	2	1	41	38	64	73	51	124	1	1
United Kingdom	55	74	96	95	68	679	631	630	606	582	86	15	12
U. S. S. R.	147	286	202	259	340	221	354	301	378	435	197	5	9
Various countries n. e. i.	12	21	25	34	36	34	41	49	56	70	206	1	1
Total	707	890	778	929	926	4,461	4,731	4,997	4,959	4,997	112	100	100
Total as percentage of 1924-25.	100	126	110	131	131	100	106	112	111	112	112	—	—

Source : International Cotton Bulletin.

¹ Bales have been converted to metric tons according to the following rates :

American cotton and sundries 1 bale = 440 lb. = 199.581 kg.
 Indian cotton 1 bale = 330 lb. = 149.685 kg.
 Egyptian cotton 1 bale = 640 lb. = 290.299 kg.

The consumption of cotton in the last year given was somewhat over 500,000 tons greater than in 1924-25. Although the section of the industry spinning the finer counts is in general more prosperous than are the other branches, the whole of this increase was constituted by American cotton and the miscellaneous crops. The consumption of Indian cotton diminished slightly, but this fact is of no great significance as the crops in the first two years given in the table were exceptionally heavy.

During the last three years the amount of cotton consumed has been practically stationary. But this is due to the fact that during this period the takings of the Russian mills have steadily increased, and there has been a similar increase in the use of cotton in some of the minor producing countries, grouped together at the bottom of the table. If these two users of cotton be ignored, it will be found that the consumption in the year ending July 31st, 1929, was lower in all the continental groups (excepting South America, where the change was slight) than it was in the commercial year 1926-27. It is this fact which gives the true picture of the situation. Amongst the countries in which there has been a material falling-off may be mentioned the following :

	1926-27	1927-28	1928-29
United Kingdom	100	96	92
Germany	100	107	92
Poland	100	114	80
India	100	77	74

In the earlier post-war years there was an important change in the centres of production, Asia greatly increasing her share. During the last two or three years, however, this tendency has ceased to operate and Asiatic consumption has slightly fallen off.

The following table gives indices of the development of the actual production of yarn and of cloth separately for the limited number of countries for which production statistics are available. The interesting fact which the table adds to the information afforded by the statistics of raw cotton consumption is the steady rise in yarn production in Belgium, a rise which is in striking contrast to the exports of yarn.

TABLE XXI (a).
ACTIVITY IN THE COTTON-SPINNING INDUSTRY.
1925 = 100.

Country	1926	1927	1928	1929
<i>America :</i>				
Canada ¹	113	114	113	113
United States ²	105	117	103	111
<i>Asia :</i>				
China ³	106	99	108	...
India ³	95	112	112	...
Japan ³	110	107	104	...
<i>Europe :</i>				
Belgium ³	116	128	136	...
France ³	103	98	106	106
Germany ⁴	84	116	105	103
Italy ³	100	87	97	...
United Kingdom ⁵	84	93	85	...
U. S. S. R. ⁶	128	161	167	...

- ¹ Production index of the *Monthly Bulletin of Business Statistics*, based on raw cotton imports.
² Production index of the Federal Reserve Board based on cotton consumption.
³ Actual quantities of yarn produced.
⁴ Production index of the Institut für Konjunkturforschung, based on output of yarn.
⁵ Average production per spindle.
⁶ Production index of the London and Cambridge Economic Service based on cotton consumption.

TABLE XXI (b).
ACTIVITY IN THE COTTON-WEAVING INDUSTRY.
1925 = 100.

Countries	1926	1927	1928
<i>America :</i>			
United States ¹ . . . . .	.	116	...
<i>Asia :</i>			
India ^{1 (a)}	116	121	95*
Japan ^{1 (a)}	108	110	119
<i>Europe :</i>			
France ²	103	96	97
Germany ³	100	115	111
Italy ¹	97	87	111
U. S. S. R. ^{1 (b)}	135	153	167

- ¹ Actual quantities of cloth produced.
² Average production per loom.
³ Looms active; based on 1926 = 100.
⁴ Production of mills affiliated to the Japan Cotton-spinners' Association.
(a) Economic years beginning April 1st.
(b) Economic years ending September 30th.
(*) Provisional figure.

Unfortunately, data for 1929 are only available for one or two countries. But the generality of the depression through which the cotton industry is passing can be judged by the following figures showing the number of weeks of forty-eight hours during which the total number of spindles from which returns were received were stopped. The figures refer to the half-years ending January 31st, 1926, 1927, 1928 and 1929.

TABLE XXII.

SHORT-TIME IN THE COTTON INDUSTRY.

[Number of Weeks of Forty-eight Hours during which the Total Number of Spindles were stopped.]

Countries	Half-year ending January 31st			
	1926	1927	1928	1929
<i>North America</i> ¹				
Canada	2.242	0.023	0.357	3.476
<i>Caribbean and South America</i>				
Brazil	—	8.992	1.317	4.927
Mexico	1.092	0.883	0.112	3.156
<i>Asia</i>				
China	3.000	9.170	17.812	9.982
Japan	6.556	4.054	10.958	12.072
<i>Europe</i>				
Austria	6.241	9.203	5.460	7.220
Belgium	0.546	0.588	0.688	0.750
Czechoslovakia	—	4.629	— ²	—
Denmark	2.226	3.001	1.489	1.612
Finland	0.038	0.824	0.193	0.589
France	0.729	0.822	1.335	0.897
Germany	1.410	2.206	1.098	1.976
Italy	0.397	1.337	2.949	3.616
Netherlands	—	0.049	0.026	0.008
Norway	8.290	4.964	2.805	5.304
Poland	4.618	2.136	1.396	— ³
Portugal	0.879	0.048	0.057	0.072
Spain	9.099	8.571	5.166	7.799
Sweden	1.842	1.036	0.574	1.273
Switzerland	0.418	1.069	—	1.495
United Kingdom	3.652	6.040	4.544	4.393

Source: *International Cotton Bulletin*.

¹ Figures for the United States are not available. In January 1929, 30,758,000 spindles were operating out of a total of 35,335,000.

² Overtime worked.

Only in five out of the nineteen countries given for 1929 was there any improvement in the last half-year given. In France, Poland and China the increase in employment was considerable.

Large as the trade in cotton goods is, most production is, nevertheless, for domestic purposes. According to an unofficial estimate made by one expert body,¹ less than 10 per cent of the cotton yarns and less than 20 per cent of the cotton cloth produced enters to-day into international trade. Exports are, however, vital to certain national industries. The total exports of yarn declined substantially in 1928-29 and the value of the exports of piece-goods fell steadily throughout the whole quinquennium. The latter figures, however, are affected by the decline in prices. Certain features of the question of the trade in cotton goods has been referred to in a companion volume² and need not be discussed here. Attention may, however, be drawn to the fact that the weight of the exports of yarn from Japan dropped between 1925 and 1928 by about 76 per cent and the value of the exports of British piece-goods by about one-third.

Wool.

The statistics of raw wool production should not be accepted as more than expert estimates. They probably reflect fairly, however, the general trend of development. Wool production and consumption were somewhat lower than before the war until about 1925. Since that date, there was a steady expansion, which by 1928 amounted to about 13 per cent. But the activity of the woollen industry in three of the four leading manufacturing countries has declined in the last few years, as is in part shown by the following table.

TABLE XXIII.
ACTIVITY IN THE WOOL INDUSTRY.
1925 = 100.

Country	1926	1927	1928	1929
<i>America :</i>				
United States ¹	97	104	102	111
<i>Europe :</i>				
France ²	107	101	110	104
Germany ³	98	112	98	...
United Kingdom ⁴	111	112	106	...

¹ Production Index of the Federal Reserve Board based on raw wool consumption.

² Production Index of the "Statistique Générale" based on wool conditioned at Roubaix-Tourcoing and Mazamet.

³ Actual production values of the wool industry (*Wirtschaftsdienst*, 1930, page 53).

⁴ Annual Production Index of the London and Cambridge Economic Service, based on raw wool consumption.

¹ The Manchester Cotton Trade Statistical Bureau.

² League of Nations, *Memorandum on International Trade and Balances of Payments*, 1926-28, Vol. I.

As may be seen from the above table, activity in Germany and the United Kingdom declined in 1928 and that in France in 1929. It would appear that the difficulties in the first two countries were accentuated in 1929. Unemployment in the British woollen industry increased from 11.7 per cent to 13.9 per cent and in the German industry employment (fully occupied workers, excluding short time) fell by about 7 per cent.

Production in the United States, on the other hand, showed an average increase of nearly 9 per cent in 1929, but it would appear that it declined markedly towards the end of that year.

The German index is, of course, affected by prices, which have fluctuated appreciably in recent years and tended to decline since the beginning of 1928. It has been, no doubt, further affected by the relatively weak domestic demand. German exports rose steadily from 1926 to 1928 as Table XXIV, showing the dollar value of the exports of woollen and worsted yarns and woollen piece-goods, shows :

TABLE XXIV.
EXPORTS OF WOOLLEN GOODS.
\$ (000's omitted).

Country	Woollen tissues			Woollen and worsted yarns ¹		
	1925	1927	1928	1925	1927	1928
Belgium	6,046	5,586	5,006	18,887	18,361	18,777
Czechoslovakia	32,308	35,118	36,118	13,762	17,447	17,343
France	68,920	62,514	63,726	34,698	68,186	57,131
Germany	50,673	64,532	66,537	21,991	22,678	29,063
Italy	18,237	11,964	12,905	2,026	5,560	5,644
United Kingdom	176,680	167,340	170,946	57,194	56,733	57,834
Total	352,864	347,054	355,238	148,558	188,965	185,792

¹ Tops, noils, rags, carpets, shawls and blankets excluded.

The above table affords a rather more favourable picture of the situation in 1928 than do the production indices; this must be attributed in part, no doubt, to the fact that production precedes export.

Silk.

Little comparable information is available for the natural silk industry. The production of raw silk has advanced from 48,100 metric tons in 1925 to about

58,100 metric tons in 1928. This is primarily due to production increasing in the Far East by over 23 per cent. In Europe, it remained relatively stable, rising but slightly. It has declined year by year in Greece from 320 metric tons in 1925 to 205 metric tons in 1928 and has simultaneously risen in Italy from 4,380 to 4,836 metric tons.

The most important silk industries are those of the United States, France, Italy, Germany, Switzerland and Great Britain. Table XXV gives such indices of production as are available.

TABLE XXV.
ACTIVITY IN THE SILK INDUSTRY.
1925 = 100

Country	1926	1927	1928	1929
<i>America :</i>				
United States of America ¹	100	110	114	124
<i>Europe :</i>				
France ²	105	87	110	91
Germany ³	84	118	.	.
Italy ⁴	86	98	108	...
United Kingdom ⁵	106	97	112	...

¹ Silk deliveries to mills.
² Production index of the "Statistique Générale", based on silk conditioned at Lyons.
³ Actual values of silk weaving (*Wirtschaft und Statistik*, 1929, page 80).
⁴ Actual quantities of silk yarn produced.
⁵ Annual production index of the London and Cambridge Economic Service, based on production of silk thrown and spun.

It will be seen that production has undergone considerable year-to-year fluctuations. In 1928, there was a general improvement in practically all important manufacturing countries. This was followed, however, by rapid reaction in 1929, which, in the last months of the year, became acute.

Artificial Silk.

Of the various branches of textiles, the artificial-silk industry has expanded by far the most in recent years. As shown in Table XXVI, the aggregate output more than doubled between 1925 and 1929.

TABLE XXVI.
ACTIVITY IN THE ARTIFICIAL SILK INDUSTRY.

Countries	Production of artificial silk. Metric tons (000's)		Production in 1926-1929 as percentage of that in 1925				Production as percentage of world total	
	1925	1929	1926	1927	1928	1929	1925	1929
<i>America</i>	24.1	61.3	124	147	191	254	27.8	31.1
United States . .	23.5	59.6	123	146	189	253	27.1	30.3
<i>Asia.</i>								
Japan	1.3	8.2	179	393	513	643	1.5	4.2
<i>Europe</i>	61.5	127.2	114	153	187	207	70.8	64.7
Belgium	5.0	6.8	119	123	136	136	5.8	3.5
France	6.5	16.8	122	147	209	258	7.5	8.5
Germany	11.8	25.0	115	154	202	212	13.6	12.7
Italy	14.0	32.3	119	174	186	231	16.1	16.4
Netherlands . . .	4.0	9.1	153	187	204	227	4.6	4.6
Switzerland . . .	2.8	5.6	130	168	194	199	3.2	2.8
United Kingdom .	13.5	24.1	86	130	175	178	15.6	12.2
Other countries .	3.9	7.6	115	159	192	196	4.4	3.8
WORLD	86.8	196.7	118	155	193	227	100.0	100.0

In contrast to the concentration of the industry in a few European countries before the war, the post-war period has witnessed a noteworthy geographical extension. The United Kingdom, Germany, France, and Belgium were, in 1913, probably responsible for over 80 per cent of the world output. Their share was only 43 per cent in 1925 and not more than 30 per cent in 1929. The most remarkable progress was made in Italy and the United States in the first years after the war, and in Japan during the last quinquennium: the output of the Japanese industry increased in this period by over 370 per cent. However, demand has failed to keep pace with this general increase in output. A stagnation began to make itself apparent in European industries (except in that of the Netherlands) as early as 1928, when stocks accumulated and prices declined. Production in the United States, however, continued to expand until the latter part of 1929. Excepting in 1927, the trade in artificial silk has kept pace with production, as the following table shows:

TABLE XXVII.
EXPORTS OF ARTIFICIAL SILK.

Countries	Quantities in quintals (000's)					1929 as percent- age of 1925	
	1925	1926	1927	1928	¹ 1929		
Belgium	33.2	32.2	37.2	39.8	31.6	95	
France	6.4	10.9	48.4	50.5	60.2	941	
Germany	38.0	36.6	44.1	62.8	91.3	240	
Italy	72.6	97.9	147.6	150.0	160.0	220	
Netherlands	30.4	55.4	72.0	77.8	88.5	291	
Switzerland	18.7	29.5	33.3	37.6	39.1	209	
United Kingdom	32.7	26.5	37.9	43.3	37.0	113	
Total	232.0	289.0	320.5	461.8	507.7	219	
Total in millions of dollars	63.3	61.2	78.5	92.4	72.6	115	
Average price in dollars per quintal	272.8	211.7	244.8	200.0	143.0	52	
Indices of Exports	Quantities	100	125	138	199	219	—
	Values	100	97	124	146	115	—
	Prices	100	77	90	73	52	—

Source : National foreign trade returns.

¹ Preliminary figures.

But while the weight of exports in 1929 was over double that of 1925, the decline in prices has been so great that values were only up by 15 per cent. The quantitative indices, therefore, though they lose nothing of their significance from the point of view of the consumer, must not be taken as indicating the financial prosperity of the productive enterprises. The above table is of particular interest as showing the enormous changes that have taken place in the relative importance in international trade of the various competing countries. In the five-year period, the exports of France increased over ninefold, those of the Netherlands almost trebled, and those of Germany rose from 38,000 to over 91,000 quintals. On the other hand, the exports of the United Kingdom and Belgium have expanded but slightly compared with these countries and, indeed, showed a definite contraction in the last year under review. In the beginning of this period they both exported about the same amount and but little less than Germany, which was and remains the second biggest source of supply. By 1929, they had been outstripped by all of their five major competitors. By far the largest exporter is Italy, whose sales in 1929 amounted to 160,000 quintals.

V. THE RELATIVE MOVEMENTS IN THE PRICES OF RAW PRODUCTS AND MANUFACTURED ARTICLES.

In previous issues of this MEMORANDUM, a tentative approach has been made to the problem of the relationship of prices of raw products and manufactured articles. On the ratio of the prices of these two groups of commodities, the productive activity (and incidentally the foreign trade) of different classes of producers and different countries is largely dependent, and the problem is therefore one of very great practical importance. In the present chapter, the analysis of certain of the somewhat inadequate available data is continued.

For the reason set out in the preface, the relative price movements that have taken place since 1913, and not only those of the past few years, will be studied. Comparison with pre-war years is particularly difficult owing to the inadequacy of the data concerning the prices of manufactured products. The lack of information is not simply due to the fact that students of prices have unduly concentrated on raw materials and foodstuffs or that standard manufactured articles at any given date are relatively few in number. Methods of production have undergone important modifications; demand has changed and the products of industry, even when bearing the same name as in 1913, are often no longer the same. Even when price data are available, therefore, they frequently fail to measure identical goods. It is partly in consequence of this difficulty that the amount of carefully sifted data that is available is remarkably small. It is therefore not advisable to rely on any single line of enquiry or to endeavour to prove thereby the character or the degree of change that has taken place. It is preferable — in the first instance, at any rate — to select evidence as independent in origin as possible, to apply a number of different tests, and to ascertain whether the data thus drawn from different sources tend to point in a like direction. Four sources of evidence — none of them in itself wholly satisfactory, or by itself adequate — are in fact available.

First, in certain countries, the indices of wholesale prices are composed of groups that embrace respectively raw materials, semi-manufactured articles and finished products. Secondly, it is possible to obtain price quotations in some markets for raw materials and for the articles manufactured therefrom. Thirdly, price indices of the goods entering into the external trade of a number of countries whose imports or exports are mainly composed of raw materials or manufactured articles are available. Fourthly, something may be learnt from a comparison of wholesale and retail price indices.

The evidence drawn from these four sources pointed in previous years to the conclusion that the prices of individual manufactured goods had, in the great majority of cases for which information was available, risen more since before the war than those of the raw materials from which they are made, and that, in certain important areas of the world, manufactured goods as a whole had risen more in price than raw products. It will be shown below, that this price discrepancy continued to exist in 1928 and 1929, though to what extent it may be explained by improvement or change in the quality or nature of the manufactured articles it is impossible to state. Further, it does not necessarily follow from this that, if it were possible to compute world indices for raw materials and for manufactured products, the discrepancy between these indices would be similar to that which the evidence considered below suggests. In the first place, a number of manufactured products are in everyday popular use now that were scarcely obtainable or were not obtainable before the war — wireless receiving-sets and many classes of knitted over-garments may be quoted by way of illustration. Secondly, changes of great significance have taken place in the relative importance of the consumption of goods which were in use in 1913. The growth of the motor-car and electrical and aluminium industries, for instance, has been such that any price index of manufactured goods based on 1913 weights implies a hypothesis which is not in conformity with facts.

If the evidence to be considered, therefore, points to the conclusion that the prices of individual manufactured products have risen more than those of raw materials and foodstuffs in certain countries, it must not be presumed that it is necessarily true that the prices of manufactured goods as a whole are likewise, and to the same extent, higher than those of raw materials and foodstuffs as a whole. There is, indeed, a strong presumption that they are higher. But the present analysis is at least insufficient to measure the amount of such discrepancy. Moreover, as will be shown later, although all the evidence points to the conclusion that the prices of those particular manufactured commodities which it is possible to compare in the years considered rule, as a whole, relatively higher than the prices of the raw materials from which they are manufactured, the discrepancy which exists to-day is appreciably less than it was some years ago.

Unfortunately, very few countries publish indices of wholesale prices in such a form as to permit of a clear distinction being made between goods in various stages of manufacture. In the following table, indices for eight countries are given. The figures show the average prices for the years 1928 and 1929. Two systems of classification or a combination of these two are adopted. According to one system, the commodities are divided into raw materials, semi-finished and finished goods, and, according to the other, into consumers' and producers' goods. Consumers' goods may be taken as roughly equivalent to finished products including foodstuffs; producers' goods are nearer akin to semi-manufactured

products, although they include industrial machinery and tools. Thus, in the case of Sweden, under consumers' goods are included various textile fabrics, stockings, boots and shoes, flour, meat, etc., and under producers', various grains and animals, iron ore and pig-iron, metal sheet and wire, building materials and yarns.

TABLE XXVIII.

COMPARATIVE PRICES ; AVERAGES FOR 1928 AND 1929.

1913=100.

Country	Year	Raw materials	Semi-finished products	Finished products	Producers' goods	Consumers' goods	General index
Canada	1928	153		147	143	154	151
	1929	153		144	142	153	149
Denmark.....	1928	134				173	153
	1929	133				169	150
Germany	1928	134		159	137	175 ^a	140
	1929	132		157	139	172 ^a	137
Italy ¹ (Milan)..	1928	490	449	512			491
	1929	464	450	514			481
Norway	1928	157				165	161
	1929	149				158	153
Sweden.....	1928	144	150	149	140	155	148
	1929	135	141	142	134	145	140
U.S.A. ²	1928	101	82	98			97
	1929	99	81	97			96
U.S.S.R.	1928	157 ^b		188			172
	1929	171 ^b		188			179

¹ Revised index, excluding foodstuffs of domestic origin.

² Base 1923, converted from 1926 base.

³ Agricultural products.

⁴ Excluding foodstuffs.

The evidence afforded by this table is striking. In Denmark, Germany, Italy, Norway, Sweden and the U.S.S.R., the indices for finished products or consumers' goods lie well above those for materials in earlier stages of manufacture. The Italian index for semi-manufactured products is, however, considerably lower than that for raw materials, a fact which is to be attributed in part to the influence of textiles and chemicals.

The two series shown for Canada point to opposite conclusions. The first, which shows a movement contrary to that of the other countries considered, has the disadvantage of not showing either raw materials or manufactured articles alone; special indices for the five groups of commodities in their raw and manufactured state have, however, been compiled and are given below for the years 1928 and 1929.

Articles of :	1928		1929	
	Products		Products	
	Raw and semi-manufactured	Manufactured and mainly manufactured	Raw and semi-manufactured	Manufactured and mainly manufactured
Farm origin :				
Field	154	157	153	152
Animal	157	144	157	145
Marine origin	116	170	123	175
Forest origin	148	181	150	163
Mineral origin	142	129	145	131

It will be noted that, in general, the figures for goods manufactured from articles of farm and mineral origin are lower than those for the raw materials constituting these groups. The term "farm origin" is used by the compilers of the index in its widest sense, and embraces such articles as cotton fabrics, fibre products, etc.

The composition of the two divisions — raw materials and manufactured products — into which the group indices are separated is not identical. The indices do not therefore indicate exactly the difference in average prices for similar commodities according to their stage of manufacture. Table XXIX (given below on pages 67 and 68), which sets out the prices of certain individual commodities classified according to their stage of manufacture, presents results which are in direct contradiction to those for the farm products and mineral groups contained in the above table.

The partial indices of the second series, those relating to producers' and consumers' goods, cover groups which are more clearly divided according to stages in manufacture.

	<i>Producers' Goods</i>		<i>Consumers' Goods</i>	
	<i>Producers' materials</i>	<i>Producers' equipment (tools, heat and power equipment, etc.)</i>	<i>Foods, beverages and tobacco</i>	<i>Other (clothing, household goods)</i>
1928	139.3	170.1	161.3	149.4
1929	136.9	171.5	160.5	146.3

“Producers’ materials” may be taken as roughly equivalent to industrial raw materials, and “producers’ equipment” on the one hand and “consumers’ goods other than foodstuffs” on the other as roughly equivalent to finished goods. It will be observed that the price relationship witnessed by these series has been the same as in the other countries considered.

The figures given for the United States of America in Table XXVIII are not comparable with those of the other countries, as they are based on the year 1923. This is to be regretted, as it might be expected that, in those countries in which the newer industries not producing prime necessities of life have made exceptional progress, the discrepancy between the prices of manufactured goods and raw materials would be of an order different from that which characterises other countries.

Of some value in this connection, however, is the grouping employed in the revised index of the Department of Labor, which shows :

		Average			
		1913	1927	1928	1929
1. Farm products	100	138	137	135	135
2. Foodstuffs	100	150	157	155	155
3. Textile products	100	167	179	164	164
4. Hides and skins	100	159	179	160	160
5. Fuel and lighting	100	141	135	140	140
6. Metals and metal products	100	108	110	115	115
7. Chemicals	100	120	119	118	118
8. House-furnishing goods . .	100	174	165	172	172
9. Miscellaneous	100	97	89	86	86

The sixth group includes motor-cars, agricultural implements, etc., in addition to crude metal products ; the ninth, paper and pulp, rubber, rubber tyres, etc. The low indices of these groups are in striking contrast at once to those for agricultural products and for such standard pre-war industrial products as those represented in the textile group.

TABLE XXIX.
RELATIVE CHANGES IN THE PRICES OF INDIVIDUAL COMMODITIES OR GROUPS
OF COMMODITIES ARRANGED ACCORDING TO STAGES OF MANUFACTURE

(Base period for indices : 1913.)

A. UNITED STATES OF AMERICA

Commodities	Indices			Percentage changes in relative value			Commodities	Indices			Percentage changes in relative value		
	1926	1927	1928	1926	1927	1928		1926	1927	1928	1926	1927	1928
Rye.....	150	165	178	100	100	100	Wool.....	182	177	216	100	100	100
„ flour	179	182	204	119	110	115	„ yarn.....	185	176	200	102	99	93
Oats.....	115	132	148	100	100	100	„ underwear	176	176	188	97	99	87
„ meal	124	142	150	108	108	101	Silk, raw	163	144	139	100	100	100
Wheat	171	156	151	100	100	100	„ yarn.....	172	143	133	106	100	96
„ flour	189	174	167	111	112	111	„ hosiery	131	123	141	80	85	101
„ bread.....	199	198	191	116	127	126	Iron ore	114	114	114	100	100	100
Cattle	112	150	170	100	100	100	Pig iron	124	119	112	109	104	98
Beef, fresh	124	143	172	111	95	101	Bar iron	181	169	167	159	148	148
„ salt	112	105	143	100	70	84	Skelp	137	132	136	120	116	119
Hogs	155	125	117	100	100	100	Wire and nails	161	145	147	141	127	129
Pork, fresh	181	160	149	117	128	127	Cutlery	217	217	217	100	100	100
Hams	176	148	137	114	118	117	Sewing-machines.....	194	197	190	170	173	167
Cotton	133	136	153	100	100	100	Copper	88	82	93	100	100	100
„ yarn, carded ..	145	142	150	109	104	98	„ wire	96	97	100	109	118	108
„ thread	186	186	186	140	137	122	Lead	192	154	143	100	100	100
„ cloth	142	144	146	107	106	95	„ pipe	195	162	153	102	105	107
„ hosiery	197	198	201	148	146	131	Zinc, slab.....	132	113	109	100	100	100
„ underwear	191	174	175	144	128	114	„ sheet.....	146	128	121	111	113	111
Hides, cow	63	99	121	100	100	100	Glass, window	140	134	139	100	100	100
Harness.....	109	117	135	173	118	112	„ plate	150	124	121	107	93	87
Skins, calf	92	104	145	100	100	100	„ tumblers	152	139	150	109	104	108
„ shoes	155	155	157	168	149	108	Wood, pulp (chemical)	129	118	113	100	100	100
Skins, goat.....	103	106	110	100	100	100	Paper, newsprint	167	157	157	129	133	139
Shoes, kid	145	143	147	141	135	134	Paper boards	186	166	176	144	141	158
Milk, fresh	148	150	145	100	100	100	Yellow pine, timber....	190	174	167	100	100	100
Butter, cheese, etc. ...	142	153	143	96	102	99	Flooring	196	167	158	103	96	95
							Furniture	141	138	135	74	79	81

B. CANADA

	1926	1927	1928	1926	1927	1928		1926	1927	1928	1926	1927	1928
Sugar.....	130	143	125	100	100	100	Lumber, timber	148	149	152	100	100	100
„ products	143	149	138	110	104	110	Pulp.....	156	148	144	105	99	95
Grains	164	166	154	100	100	100	Paper.....	176	173	172	119	116	113
Flour	166	158	158	101	95	103	Furniture	195	195	195	132	131	128
Bakery products	191	194	191	116	117	124	Pig iron	128	122	116	100	100	100
Cotton, raw	144	142	165	100	100	100	Rolling mill prod.	149	148	143	116	121	123
„ yarn and thread	158	147	157	110	104	95	Hardware	165	159	154	129	130	133
„ fabrics	181	166	171	126	117	104	Copper.....	101	95	105	100	100	100
Live-stock.....	127	115	156	100	100	100	„ wire	107	99	107	106	104	102
Meat	145	141	173	114	123	111	Lead	176	145	131	100	100	100
„ canned and cured	171	141	151	135	123	97	„ pipe	253	225	178	144	155	136
Milk	135	142	143	100	100	100	Hides.....	75	110	136	100	100	100
„ products	144	146	153	107	103	107	Harness leather.....	117	126	148	156	115	109
Silk, raw	167	135	131	100	100	100	Manufactured leather..	131	133	149	175	121	110
„ manuf.	194	181	165	116	134	126	Bricks.....	171	176	178	100	100	100
Wool.....	167	141	184	100	100	100	Pottery	330	330	321	193	188	180
„ yarn.....	186	186	186	111	132	101	Glass, window	100	90	83	100	100	100
Cloth, hosiery	220	226	232	132	160	126	„ tumblers	114	111	94	114	123	113
Fish, fresh	127	129	118	100	100	100	Rubber.....	71	54	32	100	100	100
„ dried.....	112	102	126	88	79	107	Goloshes.....	128	125	124	180	231	388
„ canned	203	207	202	160	160	171							

TABLE XXIX (continued)

C. GERMANY

Commodities	Indices			Percentage changes in relative value			Commodities	Indices			Percentage changes in relative value		
	1927	1928	1929	1927	1928	1929		1927	1928	1929	1927	1928	1929
Rye.....	157	151	121	100	100	100	Wool.....	195	201	163	100	100	100
„ flour	165	156	129	105	103	107	„ cloth	257	266	269	131	132	165
Wheat	140	123	119	100	100	100	Flax.....	218	223	169	100	100	100
„ flour	132	115	109	94	93	92	Linen yarn.....	190	187	174	87	84	103
Cattle	114	110	109	100	100	100	Cotton	137	155	148	100	100	100
Beef	118	113	115	104	103	106	„ yarn.....	158	164	155	115	106	105
Pigs	110	114	138	100	100	100	„ tissues	186	179	169	136	115	114
Pork	119	124	149	108	109	108	Hemp	141	159	142	100	100	100
Milk	124	126	121	100	100	100	„ yarn.....	152	159	146	108	100	103
Butter	147	152	148	119	121	122	Jute	111	118	111	100	100	100
Coal	121	131	137	100	100	100	„ yarn.....	123	125	123	111	106	111
Briquettes.....	151	151	151	125	115	110	„ tissues	117	122	111	105	103	100
Iron ore	115	113	114	100	100	100	Sacks	121	126	114	109	107	103
Pig iron	113	111	115	98	98	101	Hides and skins.....	111	134	92	100	100	100
Hardware, tools, etc. *	125	132	132	109	117	116	Calf leather	108	136	98	97	101	107
Machines †.....	136	141	144	118	125	126	Sole leather	125	150	122	113	112	133
Copper.....	87	96	119	100	100	100	Shoes	137	160	143	123	119	155
„ sheets	98	114	133	113	119	112	Pulpwood	128	143	...	100	100	...
Zinc	126	111	109	100	100	100	Pulp.....	151	149	148	118	104	100
„ sheets	132	118	117	105	106	107	Newsprint paper	148	148	148	116	103	100
							Paper boards	169	168	172	132	117	116

* Kleineisenwaren.

† Composite index.

D. SWEDEN

	1926	1927	1928	1926	1927	1928		1926	1927	1928	1926	1927	1928
Cattle	135	108	119	100	100	100	Raw textiles	123	140	138	100	100	100
Meat	149	124	133	110	115	112	Yarn	164	158	162	133	113	117
Iron ore	110	110	111	100	100	100	Tissues	192	182	190	156	130	138
Pig iron	127	118	119	115	107	107	Hides and Skins	81	103	125	100	100	100
Iron and steel prod. ...	134	124	116	122	113	105	Leather	109	118	141	135	115	113
Wood.....	147	150	148	100	100	100	Shoes	161	146	162	199	142	130
Wooden articles	177	183	185	120	122	125	Pulp.....	171	136	133	100	100	100
Tallow	125	111	123	100	100	100	Tar paper.....	155	160	160	91	118	120
Candles and soap ...	153	148	146	122	133	119	Paper.....	176	171	171	103	126	129

The general conclusion to be drawn from the composite indices of goods in various stages of manufacture — namely, that there remained in 1928 and 1929, as in preceding years, a general and appreciable alteration in relative values in favour of manufactured articles — is confirmed by the price indices of certain raw materials and articles manufactured therefrom (Table XXIX), quoted in four national markets. The exceptions to this rule are surprisingly few. Moreover, it will be noted that the discrepancy between the relative price levels is greater the higher a commodity is placed in the scale of production.

The indices are based on the annual averages of actual quotations for medium or representative qualities of the articles considered.

The tables necessarily fail to take account of the price movement in new industries and happen not to cover certain important commodities in the manufacture of which marked technical progress has been made. It will be observed, however, that in the great majority of the groups considered the more finished goods remained in 1928 and 1929 relatively higher in price than the raw materials from which they were made.

To the question of recent price tendencies it will be necessary to turn shortly. Before doing so, however, it is desirable to set out the third and fourth groups of evidence, namely, that afforded by indices of foreign trade prices and wholesale and retail price indices. In the following table are compared the export and import price indices of certain countries whose imports and exports

TABLE XXX.
IMPORT AND EXPORT PRICE INDICES FOR CERTAIN COUNTRIES.
1913=100.

	1926		1927		1928		Imp. as % of Exp.			Manufactured articles as % of total		
	Imp.	Exp.	Imp.	Exp.	Imp.	Exp.	1926	1927	1928	Imp.	Exp.	In year
Europe :												
Czechoslovakia	144	139	142	144	141	144	104.2	98.4	97.7	27.4	65.8	1927
Denmark.....	160	156	147	136	147	139	102.6	108.1	105.8	39.9	11.7	1926
Germany.....	126	133	125	134	127	134	94.7	93.3	94.8	17.2	72.4	1927
Irish Free State..	96	101	92	95	90	95	95.0	96.8	94.7			
Norway.....	187	175	151	144	147	140	106.9	104.9	105.0	44.8	23.3	1926
United Kingdom.....	142	173	135	163	137	163	82.1	82.8	84.0	17.7	76.6	1926
U.S.S.R.....	163	147	143	140	141	131	110.9	102.1	107.6	33.6	1.0	1926/7
Hungary....	145	116	133	128	137	127	125.0	103.9	107.9	54.6	17.2	1927
Asia and Oceania :												
China.....	151	154	165	168	169	168	98.1	98.2	100.6	43.1	17.4	1927
Dutch E. Indies.....	165	137	160	130	155	127	120.4	123.1	122.0	64.9	1.7	1926
India.....	148	132	136	130	133	127	112.1	104.6	104.7			
New Zealand.	146	145	140	146	137	161	100.7	95.9	85.1	71.1	1.7	1926

are fairly homogeneous, either manufactured goods or raw materials and foodstuffs. In the second column, the import price index is expressed in each case as a percentage of the export index.¹ Whenever, therefore, the figures in this column exceed 100, import prices have risen more than export prices ; whenever they are below 100, export prices have risen the more.

It will be observed that, in general, the export indices of industrialised States such as Germany, Switzerland and the United Kingdom are relatively high, while the export indices of agricultural States such as Denmark, the U.S.S.R., British India or the Dutch East Indies are relatively low. Reciprocally, the industrial States buy their imports of raw materials and foodstuffs cheap, while the producers of foodstuffs and raw materials buy their requirements of manufactured goods dear.

The movement in recent years has, however, been somewhat in favour of the agricultural States, more especially those exporting animal products — meat, hides and skins, wool, etc. The only countries in the above table exporting mainly agricultural products whose imports have become relatively more expensive in terms of these exports are Denmark and the Dutch East Indies, both of which were affected by the markets for one or two commodities. Denmark suffered from the serious fall in 1927 in the price of one of her two principal exports — bacon, and the Dutch East Indies from the decline in sugar and rubber.

Further light may be thrown on the problem under investigation by a comparison of retail and wholesale price indices, as the former normally relate to the prices of consumers' goods and the latter to crude foodstuffs, raw materials and semi-manufactured goods. Such comparison must, however, be made with care. In the first place, the objects for which the two sets of indices are compiled are different. Retail price (cost-of-living) indices generally include rent and only such goods as are likely to be consumed by a typical working-class family. Comparison is made, therefore, between a selection of raw materials, foodstuffs, etc., which is intended to be characteristic of the general economy of the country and a special group of immediately consumable commodities (or services) of major concern to one section of the population. It is possible — indeed, in present conditions probable — that these retail price indices tend to stand higher than would indices covering all classes of manufactured goods, for it is in the industries catering for secondary needs rather than in those supplying the prime necessities of life that the greatest technical progress has been made in recent years, and the products of these industries have probably fallen most in price. On the other hand the level of the cost-of-living indices is lowered in most countries by the inclusion of rent and by the fact that the base period for these indices is July 1914, when retail prices were generally higher than in 1913.

There is, however, a second reason why comparison between the two sets of indices requires caution. In the last two years, in contrast to the almost universal fall in wholesale prices, cost-of-living indices have either risen or

¹ Further discussion of certain special aspects of this subject will be found in the League of Nations *Memoranda on International Trade and Balances of Payments*.

remained stable in the majority of countries. This phenomenon cannot be ascribed to a relative increase in the prices of manufactured articles ; indeed, as will be shown later, the evidence suggests that there has been a trend in the opposite direction.

These reservations do not rob the following table of value. Even allowing for a considerable margin of error, the fact of a general discrepancy between the indices remains :

TABLE XXXI.

AVERAGE WHOLESALE AND RETAIL PRICES IN 1928 AND 1929.

	1928		1929		Base period	
	Wholesale	Retail	Wholesale	Retail	Wholesale	Retail
South Africa .	120	132	116	131	1913	1914
Australia	165	156	166	162	1913	XI, 1914
Austria	130	108	130	111	I-VI, 1914	VII, 1914
Bulgaria	115	105	120	109	1914	1914
Canada	151	152	149	153	1913	1913
Czechoslovakia	143	109	135	109	VII, 1914	VII, 1914
Egypt	120	152	115	151	I, 1913-VI, 1914	I, 1913-VI, 1914
Estonia	121	112	117	117	1913	1913
Finland	145	161	140	160	1913	I-VI, 1914
Germany	140	152	137	154	1913	X, 1913; I, IV, VII, 1914
Hungary	135	118	121	117	1913	1913
British India ..	163	165	159	167	1913	VII, 1914
Italy	134	145	131	149	1913	I-VI, 1914
Latvia	129	110	120	118	1913	VII, 1914
New Zealand..	147	162	147	161	1913	VII, 1914
Norway	161	190	153	180	1913	VII, 1914
Poland	120	122	113	125	I, 1914	I, 1914
Switzerland . . .	145	161	141	161	VI-VII, 1914	VI, 1914
United Kingdom	140	165	137	164	1913	VII, 1914
U.S.A.	140	162	138	161	1913	VII, 1914
U.S.S.R.	173	205	180	220	1913	1913

In fourteen out of the twenty-one countries given in the foregoing table, the retail price indices are distinctly higher than the wholesale; in Estonia, the two equated in 1929; in six countries, the wholesale price indices are higher. These countries are Australia, Latvia and a group of Central and South-East European countries — Austria, Czechoslovakia, Hungary and Bulgaria. The Austrian and Hungarian cost-of-living indices are affected by the inclusion of rent, as in both countries rents are still subject to special legislation. It is probable that, in all the five European countries, the level of wages has had an important influence on the ratio of retail to wholesale prices. The position in Australia must be ascribed in large measure to the effects of the tariff. The wholesale index covers a large selection of protected industrial raw and semi-manufactured products in addition to foodstuffs. The retail index is almost entirely composed of foodstuffs: the price of those crude food products of which Australia has a net export surplus are naturally determined by world conditions.

* * *

Up to this point, raw materials and foodstuffs have been in general considered as a single group of commodities and contrasted with finished articles. Such a grouping, however, may tend, and indeed in certain quarters has tended, to lead to exaggerated views concerning the extent to which the change in relative prices has adversely affected agricultural interests. It is necessary, therefore, to pursue the analysis a little further and to compare the prices of agricultural products with those of other raw materials and semi-manufactured products. Unfortunately, the goods entering into the existing index numbers of wholesale prices are grouped so variously that it is often difficult to employ them for this purpose. In the following statement, certain group indices which, though far from ideal, afford some evidence of value are tabulated. The groups are never identical in composition, and the figures for one country must not be compared with those for another.

TABLE XXXII.
PRICE INDICES OF AGRICULTURAL AND OTHER PRODUCTS.
(Base 1913, unless otherwise indicated).

Country	Group Index	Average for year				Compiler
		1926	1927	1928	1929	
AUSTRALIA	Cereals and vegetables.....	182	166	157	...	Melbourne, Commonwealth Bureau of Statistics. (Converted from base 1911.)
	Meat	154	168	161	...	
	Dairy produce	169	173	166	...	
	Metals and coal.....	185	188	183	...	
	Chemicals	175	188	193	...	
AUSTRIA	Foodstuffs	115	127	122	122	Federal Statistical Office. I-VI, 1914=100.
	Raw materials and semi-manuf. prod.....	140	145	146	146	
BELGIUM	Foodstuffs	782	938	879	793	Ministère de l'Industrie, du Travail et de la Prévoyance sociale. IV, 1914 = 100.
	Fuels	819	892	825	960	
	Metallurgical products.....	730	798	791	823	
	Textiles	910	1,072	1,124	996	
CZECHOSLOVAKIA	Foodstuffs	129	137	136	125	State Statistical Office. VII, 1914=100.
	Ind. raw materials and semi-manuf. ¹	150	150	151	146	
	Minerals	161	156	150	151	
DENMARK	Raw foodstuffs.....	131	136	144	132	Central Statistical Department.
	Raw materials and semi-manuf. prod.	155	124	119	132	
FINLAND	Foodstuffs	1,058	1,044	1,005	928	Central Customs Administration.
	Ind. raw materials. { Imports }	974	923	983	910	
FRANCE	Foodstuffs	577	598	584	579	Statistique générale de la France.
	Raw materials and semi-manuf. prod.	789	678	697	669	
	Minerals and metals.....	594	525	522	560	
	Textiles	819	821	840	755	
GERMANY.....	Agricultural products.....	129	138	134	130	Central Statistical Office
	Ind. raw materials and semi-manuf.	130	132	134	132	
	Iron and steel	124	125	128	130	
	Chemicals	123	124	126	127	
HUNGARY	Agricultural products.....	114	126	131	...	Central Statistical Office 1909-1913=100.
	Ind. raw materials and semi-manuf. prod. ¹	131	136	139	...	
ITALY	Foodstuffs	683	568	555	539	Provincial Economic Council, Milan.
	Ind. raw materials and semi-manuf.	643	510	467	458	
	Minerals and metals	665	503	429	447	
NETHERLANDS ..	Food	144	153	157	149	Central Statistical Office
	Total	145	148	149	142	
NORWAY	Food	197	165	157	149	Central Statistical Office
	Other goods	200	168	164	157	
	Textiles	228	195	191	182	
	Iron and metals	173	150	144	143	

¹ Including a few manufactured products.

TABLE XXXII (continued)
 PRICE INDICES OF AGRICULTURAL AND OTHER PRODUCTS.
 (Base 1913, unless otherwise indicated.)

Country	Group Index	Average for year				Compiler
		1926	1927	1928	1929	
POLAND.....	Agricultural products.....	184	131	127	112	Central Statistical Office 1914=100.
	Ind. raw materials and semi-manuf. prod. ¹	181	112	117	116	
SPAIN.....	Foodstuffs.....	183	182	176	180	Ministry of Labour.
	Ind. raw materials and semi-manuf. prod.....	179	163	158	163	
	Building materials.....	207	207	207	203	
	Metals.....	181	154	148	163	
SWITZERLAND....	Foodstuffs.....	152	146	149	147	Federal Labour Office. VII, 1914=100.
	Raw materials and semi-manuf. prod.....	141	140	141	136	
	Fodder and fertilisers.....	128	129	135	130	
UNITED KINGDOM	Domestic agric. produce.....	147	140	143	...	Ministry of Agriculture. (Converted from base 1911-1913.)
	Foodstuffs.....	155	152	152	145	
	Other than foodstuffs.....	144	136	134	132	Board of Trade.
	Cereals and meat.....	152	148	153	143	<i>Economist.</i>
	Textiles.....	153	157	165	145	
Minerals.....	150	125	115	120		
UNITED STATES OF AMERICA.	Farm products.....	142	144	150	147	Department of Labour.
	Non-agricultural products.....	154	146	149	145	

¹ Including a few manufactured products.

Attention should be drawn to the fact that some countries group all agricultural products together, while the majority distinguish between foodstuffs on the one hand and raw materials on the other. The raw materials group in this latter case includes agricultural products not primarily intended for food. As textile price indices were, in most markets, relatively high even in 1929, this system tends to raise the raw materials indices and to depress the foodstuffs indices.

An examination of the table will show that in most countries the ratio between foodstuffs or agricultural products, as the case may be, on the one hand, and the prices of raw materials or raw materials of mineral origin on the other hand tended to move in favour of agriculture during the years 1926-1928. In general, indeed, the prices of mineral and metallurgical products ruled lower in 1928 than did those of agricultural products. This is not, however, true of Australia or of Austria, Hungary and Czechoslovakia. Reference has been made above to the situation in Australia. The position in Hungary is in some ways not dissimilar. The foodstuffs indices for Austria and Czechoslovakia would be raised if 1913 were taken as base instead of the first half of 1914 or July of that year, as foodstuffs rose in price in the latter period.

Prices for products of the extractive industries, on the other hand, showed no corresponding general movement. In Austria, iron products were lower in the first two quarters of 1914 than in 1913 and coal prices remained practically stable.

It should be observed that the indices for foodstuffs or agricultural products have, in many cases, been influenced by the low prices recently ruling for the most important colonial products — coffee, tea and cocoa — and to that extent under-estimate the return to the farmer in temperate regions.

In 1929, there was a substantial drop in agricultural prices and a less marked fall in other prices. In this connection, it may be observed, in view of the length of time which has to elapse between the preparation for production and the sale of the article produced, falling prices affect the agriculturist particularly adversely.

* * *

The foregoing tables, which are confined to three or four years only, however, do not bring out clearly the wider tendencies of recent years.

In the following table, the percentage differences between certain price indices of raw materials and finished articles and between certain import and export price indices have been traced back to 1921.

TABLE XXXIII.

PERCENTAGE DIFFERENCES BETWEEN THE AVERAGE ANNUAL PRICE INDICES OF RAW MATERIALS AND FINISHED PRODUCTS AND BETWEEN CERTAIN IMPORT AND EXPORT INDICES.

Raw materials or similar indices = 100.

Year	Sweden	U.S.A.		Germany	Hungary	U.K.	British India	New Zealand	U.S.S.R.
	Finished products				Imports	Exports	Imports	Imports	Imports
1921	+ 27	+ 22	1923=100	.	+ 56	+ 42	+ 69	+ 31	.
1922	+ 33	+ 7	.	.	+ 48	+ 32	+ 21	+ 47	.
1923	+ 22	+ 7	.	.	+ 27	+ 28	+ 31	+ 8	.
1924	+ 17	+ 6	— 2	+ 30	+ 24	+ 22	+ 17	— 7	+ 30
1925	+ 8	+ 6	— 6	+ 18	+ 43	+ 19	+ 4	+ 13	+ 10
1926	+ 9	+ 11	— 1	+ 16	+ 25	+ 23	+ 12	+ 41	+ 11
1927	+ 8	.	— 3	+ 12	+ 4	+ 21	+ 4	— 4	+ 2
1928	+ 3	.	— 3	+ 18	+ 8	+ 19	+ 5	— 15	+ 8
1929	+ 4	.	— 2	+ 19	...	+ 19	...	...	...

In every case, the index which measures the price of crude products or the group of commodities, whether imports or export, which is known to consist mainly of crude products, is taken as equal to 100 and the percentage difference between it and the other index named at the top of each column is calculated. All figures preceded by a plus sign (+) indicate that the price index of the more finished goods stood higher than that for goods in earlier stages of manufacture. It will be seen that the discrepancy during the last three years has in almost every case been less than during the preceding three years. In other words, the advantage in price which the industrialist enjoyed has diminished. The import and export indices show a less well-defined movement than do the others, as is to be expected, since they are composed of less homogeneous groups of commodities.

The general tendency noticeable particularly in the period 1922 to 1926 for the two curves on which the figures are based to converge is, however, now no longer so clearly discernible. In Germany and the United States, for instance, there has been no decrease in the margin in the last three years. Such a situation might indeed be expected during a period of falling prices, for raw materials are normally affected more seriously than any others.

It should be remembered that 1913 was a year of rapidly rising prices: a convincing comparison of the price movements of raw products and manufactured articles can only be made when similar conditions again prevail. Were the downward price trend to cease and a contrary movement to begin, the markets for raw products would probably be affected first and the margin between the two series be narrowed.

In many countries, however, the margin during the last few years has been so small as to be scarcely significant. Attention was drawn above to the influence of the changes which have taken place in the quality and character of industrial products and it is by no means improbable that these changes have been sufficient — they may have been more than sufficient — to account for the smaller discrepancies indicated in the table as existing to-day in certain countries.

ANNEXES

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Annex I.

METHOD OF CALCULATION OF THE COMPOSITE PRODUCTION INDEX.

The index is composed of 62 articles which are given in Annex II. For the purposes of the calculation of the index, a "weight" has been attributed to each commodity equivalent to its relative importance as measured by its aggregate value at selected "world" prices. The prices selected are intended to be representative in the sense that they refer to representative qualities and that their ratios are fairly typical of relative values on the world market. They are annual averages of actual quotations for medium qualities of the various articles in leading producing countries. They are not averages of prices of different qualities or of prices in different countries. They have all been converted into terms of dollars according to the annual average rates of exchange.

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

$$I = \frac{q_1' p' + q_1'' p'' + q_1''' p''' + \dots + q_1^n p^n}{q_0' p' + q_0'' p'' + q_0''' p''' + \dots + q_0^n p^n} = \frac{\Sigma(q_1 p)}{\Sigma(q_0 p)}$$

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

In view of the changes that have taken place in relative values, three different calculations have been made, employing the prices for 1913, 1926, and 1928 respectively. In part A of Annex III the basic year is 1913, and the prices employed are those for the basic year and 1928, the last year considered; in part B the basic year is 1926, and the prices for that year and for 1928 have been used.

In Annex IV, showing the percentage distribution of aggregate production by continental groups, as well as in Annex V, showing changes in the relative importance of each group of commodities, the percentages are calculated from the aggregates obtained by employing prices for 1926 and 1928.

Two tables showing the aggregates from which the general index has been calculated are given below.

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

Groups of Commodities	(a) Aggregates according to 1926 Prices							(b) Aggregates according to 1928 Prices						
	1913	1923	1924	1925	1926	1927	1928	1913	1923	1924	1925	1926	1927	1928
Cereals and other food crops.....	23,994.2	24,724.0	24,126.5	26,559.1	26,036.7	26,727.3	27,795.2	24,096.9	24,769.9	24,078.4	26,511.8	25,982.8	26,447.1	27,513.9
Meat	5,496.5	5,747.4	6,074.7	6,060.1	6,157.2	6,381.0	6,858.4	5,533.8	5,784.6	6,119.5	6,148.3	6,257.4	6,421.2	6,795.8
Colonial produce, etc.....	1,600.0	1,918.3	1,935.8	2,153.7	2,144.2	2,522.9	2,416.6	1,483.0	1,911.6	1,933.3	2,001.2	1,977.7	2,307.8	2,222.9
Vegetable-oil materials	1,258.8	1,443.3	1,624.9	1,736.0	1,687.1	1,960.3	1,835.3	1,349.9	1,493.5	1,689.2	1,799.9	1,736.7	2,045.7	1,877.3
Textiles	4,132.0	3,954.7	4,489.3	5,062.1	5,364.6	5,074.3	5,419.7	4,563.0	4,306.1	4,907.8	5,541.1	5,819.6	5,520.6	5,910.0
Rubber.....	122.2	400.8	435.3	544.5	689.3	668.9	713.9	54.8	179.7	195.1	244.2	309.0	299.8	320.1
Wood-pulp.....	392.4	507.7	532.2	591.7	654.5	690.6	708.6	319.9	415.8	435.2	484.5	536.3	566.1	680.8
Cement.....	485.6	533.8	581.0	654.2	711.1	788.5	846.4	485.6	533.8	581.0	654.2	711.1	788.5	846.4
Fuels	7,406.0	8,569.5	8,511.6	8,643.9	8,656.3	9,479.6	9,379.3	4,385.7	5,176.3	5,143.3	5,230.6	5,243.2	5,762.0	5,705.7
Metals (smelter production).....	4,132.6	4,291.2	4,358.3	4,930.4	5,096.0	5,474.2	5,920.9	3,768.9	3,919.6	3,979.4	4,500.0	4,649.6	4,994.8	5,408.6
Chemicals (fertilisers).....	551.6	580.7	637.2	726.1	728.8	763.5	882.6	525.0	553.4	603.4	690.7	693.1	727.9	836.7
Total	49,571.9	52,671.4	53,306.8	57,661.8	57,925.8	60,531.1	62,776.9	46,565.5	49,044.3	49,665.6	53,806.5	53,916.5	55,871.5	58,018.2

Territorial Divisions	(a) Aggregates according to 1926 Prices							(b) Aggregates according to 1928 Prices						
	1913	1923	1924	1925	1926	1927	1928	1913	1923	1924	1925	1926	1927	1928
Eastern and Central Europe :														
Excluding U.S.S.R.	8,547.6	6,628.4	7,211.3	8,269.4	7,906.3	8,766.1	9,456.8	7,636.2	5,972.2	6,350.4	7,340.6	7,052.3	7,644.8	8,259.5
Including U.S.S.R.	13,124.2	10,027.5	10,771.0	13,082.2	13,231.8	13,898.1	14,651.1	12,205.0	9,278.9	9,900.1	12,020.7	12,171.6	12,570.3	13,247.8
Rest of Europe.....	8,099.2	7,903.3	8,262.4	8,645.3	7,715.0	9,140.9	9,087.6	6,922.1	6,803.3	7,099.5	7,485.8	6,856.8	7,954.2	7,886.2
Europe, excluding U.S.S.R.	16,646.8	14,531.8	15,473.7	16,914.7	15,621.3	17,907.0	18,544.4	14,558.3	12,775.5	13,449.9	14,826.4	13,909.1	15,599.0	16,145.7
Europe, including U.S.S.R.	21,223.4	17,930.9	19,033.4	21,727.5	20,946.8	23,039.0	23,738.7	19,127.1	16,082.2	16,999.6	19,506.5	19,028.4	20,524.5	21,134.0
North America	13,470.6	17,326.1	16,149.5	17,065.5	17,845.5	17,607.2	18,482.4	12,518.0	15,717.4	14,667.9	15,761.1	16,258.0	15,982.5	16,896.0
Caribbean	784.7	1,273.4	1,389.4	1,319.6	1,261.8	1,204.5	1,288.3	784.9	1,178.1	1,303.7	1,236.9	1,198.7	1,153.1	1,239.1
South America	2,384.8	3,069.8	2,858.0	3,071.3	3,145.8	3,601.4	3,813.6	2,400.9	3,141.3	2,916.8	3,154.2	3,196.2	3,590.8	3,748.9
Africa	1,115.0	1,372.2	1,462.1	1,564.2	1,559.2	1,612.5	1,669.5	1,170.0	1,441.8	1,547.7	1,654.9	1,640.9	1,695.4	1,779.5
Asia	9,692.0	10,698.2	11,333.2	11,867.7	11,999.4	12,299.3	12,565.2	9,657.9	10,486.3	11,163.5	11,450.0	11,437.8	11,769.8	12,010.9
Oceania	901.4	1,000.8	1,081.2	1,046.0	1,167.3	1,167.2	1,219.2	906.7	997.2	1,066.4	1,042.9	1,156.5	1,165.4	1,209.8
WORLD	49,571.9	52,671.4	53,306.8	57,661.8	57,925.8	60,531.1	62,776.9	46,565.5	49,044.3	49,665.6	53,806.5	53,916.5	55,871.5	58,018.2

Annex II.

INDICES OF WORLD PRODUCTION OF FOODSTUFFS AND RAW MATERIALS.

Groups of Products and Articles	Base 1913 = 100						Base 1926 = 100					
	1923	1924	1925	1926	1927	1928	1923	1924	1925	1926	1927	1928
<i>Cereals and other food crops</i>												
Wheat	101	92	106	114	112	120	89	81	93	100	98	105
Rye	96	83	108	99	104	97	97	84	109	100	106	98
Barley	87	79	91	88	89	103	99	90	104	100	101	117
Oats	97	95	102	103	98	111	94	92	98	100	95	108
Maize	109	92	112	106	104	102	103	87	105	100	98	96
Rice	103	111	111	110	110	113	94	101	101	100	100	103
Potatoes	108	113	117	107	123	123	98	105	109	100	115	114
Sugar { Beet sugar	76	104	106	99	114	120	77	105	108	100	115	122
Cane sugar	154	168	177	169	175	190	91	160	105	100	103	112
<i>Meat</i>												
Beef and veal	107	114	116	118	118	120	90	96	98	100	100	101
Pork, bacon etc.	107	113	110	111	118	133	96	102	99	100	107	120
Mutton	87	87	90	95	98	101	92	92	95	100	104	107
<i>Colonial produce, etc.</i>												
Coffee	129	116	118	120	197	137	108	97	98	100	164	115
Cocoa	205	222	219	207	208	221	99	107	106	100	101	107
Tea	105	110	110	116	119	122	91	94	94	100	102	105
Hops	47	85	72	72	80	80	65	119	100	100	112	111
Tobacco	140	144	148	150	147	147	94	96	99	100	98	98
<i>Vegetable-oil materials</i>												
Cotton-seed	89	112	126	125	110	115	71	89	100	100	88	92
Linseed	113	119	142	128	139	137	88	93	111	100	108	107
Rape-seed	96	90	97	78	79	71	123	114	123	100	101	91
Hemp-seed	88	84	135	131	141	139	67	64	103	100	108	106
Sesamum	94	97	78	81	99	84	116	119	96	100	121	103
Soya beans	208	251	212	254	285	294	82	99	83	100	112	116
Copra	171	180	184	205	199	235	83	87	90	100	97	115
Palm oil and palm-kernel oil (raw)	142	160	170	161	163	160	88	99	105	100	101	100
Olive oil (raw)	116	132	112	97	182	110	120	137	116	100	187	113
Ground-nuts	129	155	198	204	249	270	63	76	97	100	122	133
<i>Textiles</i>												
Cotton	88	111	126	127	109	117	70	88	99	100	86	93
Flax	53	70	82	73	68	75	72	96	111	100	92	102
Hemp	92	85	107	98	82	96	94	86	109	100	84	98
Manila hemp	122	128	117	118	112	116	103	108	99	100	95	98
Jute	100	96	105	143	120	117	70	67	74	100	84	82
Wool	92	91	100	107	111	114	86	85	94	100	103	106
Raw silk	138	150	164	174	184	198	79	86	94	100	106	114
Artificial silk	305	404	537	632	833	1,036	48	64	85	100	132	164

Annex II (concluded).

INDICES OF WORLD PRODUCTION OF FOODSTUFFS AND RAW MATERIALS.

Groups of Products and Articles	Base 1913 = 100						Base 1926 = 100					
	1923	1924	1925	1926	1927	1928	1923	1924	1925	1926	1927	1928
<i>Raw Rubber</i>	428	433	518	579	632	602	74	75	90	100	109	104
<i>Wood-pulp</i>												
Mechanical pulp	118	127	138	150	155	158	79	85	92	100	104	106
Chemical pulp	135	140	157	175	186	191	77	80	90	100	106	109
<i>Cement</i>	111	121	135	145	160	166	76	84	93	100	110	115
<i>Fuels</i>												
Coal	99	98	98	98	105	102	102	100	101	100	108	105
Lignite	125	133	144	144	155	168	87	92	100	100	108	117
Petroleum	263	262	276	283	326	341	93	93	98	100	115	121
<i>Metals (smelter production).</i>												
Pig-iron	88	86	97	100	110	112	89	87	98	100	110	112
Steel	103	102	118	122	133	144	84	84	97	100	109	118
Copper	122	130	138	144	161	170	85	90	96	100	105	118
Lead	102	114	128	135	143	144	75	84	95	100	106	106
Zinc	97	104	117	127	135	144	77	82	92	100	107	114
Tin	106	112	112	113	122	139	93	99	99	100	107	123
Aluminium	227	264	284	310	324	349	73	85	91	100	105	113
Nickel	101	114	121	109	111	158	92	104	110	100	101	145
Silver	108	105	112	116	112	114	94	91	97	100	97	98
<i>Chemicals (fertilisers)</i>												
Natural phosphates	98	114	122	134	139	139	73	85	91	100	103	104
Potash	101	90	129	114	130	147	89	79	113	100	114	129
Sulphur	250	172	188	240	268	255	104	72	78	100	112	106
Natural guano	242	288	283	203	244	274	119	142	140	100	120	135
Nitrate of soda	70	88	92	74	59	115	94	119	125	100	80	156
Nitrate of lime	223	196	260	521	674	818	43	38	50	100	129	157
Superphosphates of lime	87	92	108	108	108	120	80	85	99	100	99	111
Basic slag	63	96	103	109	124	126	58	88	94	100	114	115
Cyanamide of calcium	294	336	452	534	538	575	53	63	85	100	101	108
Sulphate of ammonia	174	199	225	228	260	281	76	87	99	100	114	124
Sulphate of copper	104	106	99	107	119	122	97	99	93	100	111	118

N.B. This Annex is based on figures which are sometimes more recent than those which were available at the time when the other Annexes were compiled.

Annex III.

RAW MATERIALS WEIGHTED BY: (a) 1913 VALUES ; (b) 1928 VALUES.

1913 = 100.

North America		Caribbean		South America		Africa		Asia		Oceania		World	
(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)
123	123	84	83	145	145	113	112	91	91	123	121	101	101
104	105	85	85	113	113	113	113	88	87	162	160	90	90
115	115	65	65	138	138	118	118	86	85	113	112	105	105
112	112	73	73	138	138	115	114	85	85	155	153	105	104
118	118	72	72	141	140	121	120	89	88	122	120	104	104
126	126	71	71	144	143	128	128	81	81	156	154	109	109
123	123	147	142	156	155	119	118	103	102	121	120	103	103
107	106	182	175	129	127	124	123	107	107	155	155	102	100
114	114	171	162	151	149	127	126	108	107	132	128	111	110
112	112	163	156	152	150	121	119	107	106	153	151	109	108
118	118	166	149	153	152	137	135	108	107	142	138	111	110
127	127	177	168	155	153	134	133	110	109	163	160	116	114
135	133	109	110	105	108	110	111	123	119	105	104	105	105
136	133	107	108	108	112	114	115	129	125	108	105	111	111
126	126	107	109	108	111	117	117	132	127	105	101	111	111
127	127	111	113	111	114	123	124	130	126	104	101	113	113
127	126	114	117	112	115	132	132	137	131	112	109	117	116
128	126	119	120	123	126	134	135	138	133	117	114	124	123
138	142	113	111	139	138	291	279	121	120	135	136	130	129
117	119	109	108	126	125	335	320	133	130	140	124	133	130
129	131	114	114	120	119	353	341	138	135	130	120	137	135
123	125	107	106	123	123	364	356	133	132	125	120	135	133
117	118	130	130	200	203	364	358	137	135	175	168	157	156
131	133	128	129	175	177	376	365	137	136	135	140	151	150
82	82	138	114	187	186	130	129	118	111	193	197	114	111
115	115	144	121	154	155	138	135	130	123	199	201	129	125
118	119	138	119	238	238	163	161	136	131	211	214	137	133
125	126	206	177	220	219	160	159	133	127	229	229	133	129
105	106	141	118	250	248	155	154	152	147	250	252	153	152
106	108	168	142	257	255	166	167	156	151	234	236	143	139
84	83	86	84	118	112	106	107	108	108	107	107	97	94
110	107	99	97	116	111	121	121	118	120	99	99	112	108
130	127	101	97	123	116	138	138	128	129	110	110	127	121
147	142	166	159	120	115	136	137	129	128	125	124	135	128
113	109	89	87	123	117	118	121	137	137	129	129	128	121
129	123	127	123	128	123	145	147	136	137	126	126	138	130
—	—	—	—	56	56	22	22	896	896	—	—	426	426
—	—	—	—	58	58	22	22	910	910	—	—	433	433
—	—	—	—	71	71	33	33	1084	1084	—	—	518	518
—	—	—	—	67	67	44	44	1220	1220	—	—	579	579
—	—	—	—	78	78	44	44	1327	1327	—	—	632	632
—	—	—	—	58	58	33	33	1282	1282	—	—	602	602

Annex III (continued)

A. INDICES OF PRODUCTION OF FOODSTUFFS AND
Production in

Groups of Products	Years	Eastern and Central Europe				Rest of Europe		Europe			
		Excluding U.S.S.R.		Including U.S.S.R.				Excluding U.S.S.R.		Including U.S.S.R.	
		(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)
Wood-Pulp	1923	80	81	74	74	118	118	101	102	97	98
	1924	90	90	84	84	133	133	114	115	110	110
	1925	112	112	103	103	145	146	131	131	126	126
	1926	121	121	114	114	154	155	140	140	136	136
	1927	132	132	125	125	169	169	152	153	148	149
	1928	140	141	133	133	161	162	152	153	148	149
Cement	1923	50	50	44	44	124	124	84	84	78	78
	1924	55	55	50	50	137	137	93	93	87	87
	1925	71	71	66	66	147	147	106	106	100	100
	1926	74	74	74	74	161	161	115	115	111	111
	1927	91	91	90	90	181	181	133	133	129	129
	1928	98	98	98	98	190	190	141	141	138	138
Fuels	1923	65	65	62	63	96	96	84	84	81	82
	1924	90	91	85	85	97	97	94	94	92	92
	1925	95	96	91	91	91	91	93	93	91	91
	1926	105	106	104	104	62	62	79	79	80	80
	1927	112	112	113	113	97	97	102	103	103	104
	1928	114	115	117	117	93	93	101	101	103	104
Metals	1923	55	55	47	47	86	86	74	73	68	68
	1924	72	72	63	62	101	101	89	89	83	83
	1925	88	88	79	79	104	104	97	97	92	92
	1926	90	89	85	85	99	98	95	95	92	92
	1927	116	116	110	109	119	119	118	118	115	114
	1928	113	112	109	109	127	127	121	121	119	118
Chemicals (fertilisers)	1923	97	94	96	92	110	111	104	103	104	103
	1924	118	109	116	108	121	122	120	116	119	116
	1925	151	142	149	140	129	130	138	135	137	135
	1926	156	143	154	142	133	135	142	138	142	138
	1927	180	166	178	165	140	143	157	153	156	153
	1928	183	170	181	169	149	151	163	159	162	159
General Index	1923	78	78	76	76	98	98	88	88	85	84
	1924	85	83	83	81	103	103	94	92	91	89
	1925	97	96	100	98	109	108	103	102	103	102
	1926	94	92	101	100	100	99	96	96	100	99
	1927	103	100	106	103	116	115	109	107	110	107
	1928	111	108	112	109	116	114	114	111	113	110
Foodstuffs	1923	82	82	81	81	98	98	88	89	86	86
	1924	83	81	84	82	99	98	90	88	89	87
	1925	97	96	102	101	109	108	102	101	104	103
	1926	89	89	101	101	101	101	94	94	101	101
	1927	95	93	103	101	106	104	100	98	104	102
	1928	106	104	109	107	107	106	106	105	109	107
Raw Materials	1923	68	68	62	62	98	98	86	86	81	80
	1924	88	88	80	78	108	108	100	100	94	93
	1925	99	97	93	91	109	108	105	104	102	100
	1926	105	102	100	97	98	97	100	99	99	97
	1927	121	117	114	109	128	127	125	123	121	118
	1928	123	119	118	113	126	124	125	122	122	119

Annex III (continued)

RAW MATERIALS WEIGHTED BY : (a) 1913 VALUES ; (b) 1928 VALUES.
1913 = 100.

North America		Caribbean		South America		Africa		Asia		Oceania		World	
(a)	(b)	(a)		(b)		(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)
171	172	93		93		—	—	541	552	—	—	130	130
167	167	93		93		—	—	549	561	—	—	136	136
180	181	139		140		—	—	621	635	—	—	151	151
203	205	139		140		—	—	752	772	—	—	167	168
206	207	162		164		—	—	816	839	—	—	176	177
217	219	162		164		—	—	854	880	—	—	181	182
		(a)	(b)	(a)	(b)								
144	144	—	—	—	—	—	—	233	233	191	191	111	111
156	156	—	—	—	—	—	—	250	250	235	235	121	121
169	169	—	—	—	—	—	—	292	292	250	250	135	135
172	172	—	—	—	—	—	—	353	358	412	412	145	145
182	182	—	—	—	—	—	—	392	392	456	456	160	160
186	186	—	—	—	—	—	—	392	392	362	362	166	166
142	144	546	548	285	294	144	144	160	161	100	100	117	118
128	130	514	516	430	445	150	151	172	173	110	110	116	117
132	134	433	434	637	664	158	158	182	184	110	110	118	119
144	146	346	347	1058	1104	168	169	181	183	108	108	118	120
144	146	254	255	1598	1671	164	166	187	188	112	112	130	131
140	142	212	213	2387	2497	159	160	183	185	100	100	129	130
137	138	133	139	345	343	686	715	126	130	94	99	105	104
122	122	127	133	337	335	949	968	143	148	99	107	107	106
142	142	141	147	348	346	963	971	150	155	106	115	120	119
150	150	154	162	372	369	874	891	155	161	108	118	124	123
143	143	159	171	417	414	991	1015	166	174	113	124	133	133
161	161	168	179	503	500	1226	1244	176	183	116	127	144	144
166	159	246	246	71	71	114	113	189	177	96	96	108	105
139	135	286	286	89	89	152	152	214	202	108	110	118	115
163	158	234	234	93	93	158	160	240	225	159	157	134	132
180	174	306	306	74	74	167	169	272	257	146	145	136	132
183	176	311	311	61	60	199	201	303	286	148	147	143	139
214	207	297	297	116	116	189	191	304	288	148	147	163	159
127	126	153	150	129	131	124	123	115	109	111	110	107	105
118	117	170	166	120	121	134	132	122	116	121	118	109	107
127	126	162	158	130	131	143	141	127	119	118	115	118	116
131	130	156	153	131	133	142	140	130	118	129	128	119	116
129	128	150	147	147	150	147	145	132	122	130	129	124	120
137	135	162	158	155	156	153	152	136	124	136	133	129	125
126	125	141	136	130	131	117	116	104	103	115	113	104	103
113	112	169	163	119	119	122	121	108	108	137	134	103	102
117	117	160	153	129	130	124	123	109	108	121	117	111	110
116	115	154	148	131	132	121	121	108	107	134	130	110	109
121	120	148	143	132	134	135	134	109	108	131	126	112	111
127	126	166	159	139	139	134	133	112	111	146	141	117	116
128	126	178	181	126	130	135	134	142	122	106	107	113	109
124	123	171	174	123	125	152	150	155	134	104	103	119	115
137	136	167	169	132	134	170	169	171	144	114	113	130	125
148	147	162	163	133	136	171	170	182	146	125	125	135	128
138	137	154	155	171	177	164	161	188	155	130	131	143	136
147	145	154	154	181	185	180	180	194	157	126	127	148	140

Annex III (continued)

RAW MATERIALS WEIGHTED BY : (a) 1926 VALUES ; (b) 1928 VALUES.

1926 = 100.

North America		Caribbean		South America		Africa		Asia		Oceania		World	
(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)
110	110	116	115	107	105	100	99	107	107	78	79	96	97
94	94	116	117	83	82	98	99	103	103	103	104	86	87
101	103	90	90	99	100	105	104	100	100	73	73	100	101
100	100	100	100	100	100	100	100	100	100	100	100	100	100
106	105	99	99	103	102	106	106	104	104	78	79	100	100
114	113	98	97	109	104	112	113	94	95	100	101	105	104
110	110	90	91	104	103	100	99	96	96	79	80	95	95
95	95	112	112	86	85	102	103	100	101	101	102	93	93
100	103	105	104	98	100	106	105	101	101	84	85	102	102
100	100	100	100	100	100	100	100	100	100	100	100	100	100
106	106	96	96	102	101	113	113	101	101	90	91	103	102
114	114	109	108	106	102	111	111	103	103	106	106	107	106
108	104	100	98	95	95	90	89	94	95	103	103	93	92
108	105	97	96	97	98	92	92	98	99	102	105	99	98
100	99	97	96	97	97	94	94	101	101	98	100	98	98
100	100	100	100	100	100	100	100	100	100	100	100	100	100
101	99	103	103	102	102	107	107	106	104	109	108	104	103
103	99	108	106	112	111	108	109	108	105	115	113	111	109
110	113	104	105	112	112	79	78	91	91	114	113	89	97
95	95	97	101	101	102	90	90	99	99	110	103	90	98
104	105	107	107	96	97	89	96	102	103	100	100	100	101
100	100	100	100	100	100	100	100	100	100	100	100	100	100
95	95	123	123	167	165	101	100	103	103	131	140	118	117
107	107	122	122	145	144	96	103	103	103	115	117	113	112
66	65	67	64	85	85	80	81	87	87	85	86	86	86
92	91	70	68	70	71	85	85	97	97	87	88	96	97
95	94	68	67	109	109	101	102	102	103	93	94	103	104
100	100	100	100	100	100	100	100	100	100	100	100	100	100
85	84	70	66	114	114	97	97	115	116	110	110	116	118
86	85	82	80	117	117	105	105	119	119	103	103	109	108
58	58	53	53	98	98	78	78	83	84	86	86	74	74
76	76	61	61	96	96	88	88	91	93	80	80	84	84
89	89	61	61	101	101	100	100	98	100	88	88	94	95
100	100	100	100	100	100	100	100	100	100	100	100	100	100
77	77	54	55	102	102	88	88	104	106	104	104	95	95
87	87	77	77	106	106	107	107	104	107	101	101	101	102
—	—	—	—	83	83	50	50	73	73	—	—	74	74
—	—	—	—	87	87	50	50	75	75	—	—	75	75
—	—	—	—	107	107	75	75	89	89	—	—	90	90
—	—	—	—	100	100	100	100	100	100	—	—	100	100
—	—	—	—	117	117	100	100	100	109	—	—	109	109
—	—	—	—	87	87	75	75	105	105	—	—	104	104

Annex III (concluded).

B. INDICES OF PRODUCTION OF FOODSTUFFS AND
Production in

Groups of Products	Years	Eastern and Central Europe				Rest of Europe (Western and Maritime)		Europe			
		Excluding U.S.S.R.		Including U.S.S.R.				Excluding U.S.S.R.		Including U.S.S.R.	
		(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)
Wood-pulp	1923	66	66	64	65	77	76	73	73	72	72
	1924	74	74	74	74	86	86	82	82	81	81
	1925	92	92	90	90	94	94	94	93	93	93
	1926	100	100	100	100	100	100	100	100	100	100
	1927	109	109	110	110	109	109	109	109	109	109
	1928	116	116	116	117	105	105	109	109	109	109
Cement	1923	67	67	60	60	77	77	73	73	70	70
	1924	74	74	68	68	85	85	81	81	78	78
	1925	95	95	89	89	91	91	92	92	90	90
	1926	100	100	100	100	100	100	100	100	100	100
	1927	123	123	123	123	112	112	116	116	116	116
	1928	132	132	134	134	118	118	123	123	124	124
Fuels	1923	61	62	60	60	154	154	107	107	102	101
	1924	86	85	82	82	156	155	120	120	115	114
	1925	90	90	88	88	146	146	118	118	114	113
	1926	100	100	100	100	100	100	100	100	100	100
	1927	106	106	109	109	155	155	130	130	129	129
	1928	108	109	113	113	149	149	128	128	129	129
Metals	1923	62	62	56	56	87	88	77	78	74	74
	1924	81	81	74	74	102	102	94	94	90	90
	1925	98	98	94	93	105	106	103	103	101	100
	1926	100	100	100	100	100	100	100	100	100	100
	1927	130	130	129	129	120	120	124	124	124	124
	1928	126	125	128	128	128	129	127	128	128	129
Chemicals (fertilisers).....	1923	64	65	63	65	83	82	74	75	74	74
	1924	76	76	76	76	91	91	84	84	84	84
	1925	97	99	97	99	97	97	97	98	97	98
	1926	100	100	100	100	100	100	100	100	100	100
	1927	116	116	116	116	106	106	111	111	111	111
	1928	119	119	119	119	112	112	115	115	115	115
General Index	1923	84	85	76	76	102	99	93	92	86	85
	1924	91	90	81	81	107	104	99	97	91	89
	1925	105	104	99	99	112	109	108	107	104	103
	1926	100	100	100	100	100	100	100	100	100	100
	1927	111	108	105	103	118	116	115	112	110	108
	1928	120	117	111	109	118	115	119	116	113	111
Foodstuffs.....	1923	94	93	81	80	97	97	95	95	86	85
	1924	94	92	82	82	98	97	96	94	87	86
	1925	110	108	101	100	108	107	109	107	103	102
	1926	100	100	100	100	100	100	100	100	100	100
	1927	109	105	102	100	105	103	107	105	103	101
	1928	122	117	109	106	106	105	115	112	108	106
Raw materials.....	1923	65	67	62	64	108	102	90	87	86	83
	1924	85	86	80	80	118	112	104	101	99	96
	1925	94	96	93	94	117	112	107	105	105	103
	1926	100	100	100	100	100	100	100	100	100	100
	1927	114	115	113	112	134	132	125	125	123	122
	1928	116	117	117	117	131	128	125	123	124	123

Annex III (concluded).

RAW MATERIALS WEIGHTED BY : (a) 1926 VALUES ; (b) 1928 VALUES.
1926 = 100.

North America		Caribbean		South America		Africa		Asia		Oceania		World	
(a)	(b)	(a)		(b)		(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)
84	84	70	70	67	67	—	—	72	72	—	—	78	78
82	82	70	70	67	67	—	—	73	73	—	—	81	81
89	89	100	100	100	100	—	—	83	82	—	—	90	90
100	100	100	100	100	100	—	—	100	100	—	—	100	100
101	101	123	123	117	117	—	—	109	109	—	—	108	108
107	107	123	123	117	117	—	—	114	114	—	—	108	108
84	84	(a)	(b)	(a)	(b)	—	—	65	65	46	46	76	76
91	91	—	—	—	—	—	—	70	70	57	57	84	84
98	98	—	—	—	—	—	—	81	81	61	61	93	93
100	100	—	—	—	—	—	—	100	100	100	100	100	100
106	106	—	—	—	—	—	—	109	109	111	111	110	110
108	108	—	—	—	—	—	—	109	109	88	88	115	115
99	98	157	158	27	27	85	85	89	88	92	92	99	99
89	89	148	149	41	40	89	89	95	95	101	101	98	98
92	92	125	125	61	60	94	94	101	100	101	101	100	100
100	100	100	100	100	100	100	100	100	100	100	100	100	100
99	100	73	73	151	151	98	98	103	103	103	103	110	110
96	97	61	61	225	226	95	95	101	101	92	92	108	109
92	92	86	86	93	93	81	80	82	81	83	84	84	84
81	81	81	82	90	91	108	109	93	92	90	91	86	86
95	95	90	91	94	94	108	109	94	96	98	98	97	97
100	100	100	100	100	100	100	100	100	100	100	100	100	100
95	95	106	106	111	112	114	114	108	108	106	106	107	107
107	107	111	110	135	135	138	140	114	113	108	108	116	116
91	91	80	80	95	95	68	67	69	69	65	66	80	80
78	78	93	93	120	120	90	90	78	79	75	76	87	87
91	91	77	77	126	126	95	95	87	87	108	108	100	100
100	100	100	100	100	100	100	100	100	100	100	100	100	100
101	101	102	102	81	81	119	119	112	111	103	101	105	105
119	119	97	97	156	156	113	113	113	112	103	101	121	121
97	97	101	98	98	98	88	88	89	92	86	86	91	91
90	90	110	109	91	91	94	94	94	98	93	92	92	92
96	97	105	103	98	99	100	101	99	100	90	90	100	100
100	100	100	100	100	100	100	100	100	100	100	100	100	100
99	98	95	96	114	112	103	103	102	103	100	101	104	104
104	104	102	103	121	117	107	108	105	105	104	105	108	108
109	109	92	92	100	100	97	96	96	96	86	87	95	95
99	97	110	110	91	91	100	100	100	101	102	103	94	94
100	102	104	103	98	99	103	102	101	101	88	90	101	101
100	100	100	100	100	100	100	100	100	100	100	100	100	100
105	104	97	97	102	101	111	111	101	101	95	97	103	102
111	110	109	108	108	106	110	111	103	103	108	108	108	106
88	86	116	111	94	96	79	79	79	84	86	85	86	85
85	84	110	106	91	92	88	88	86	92	84	82	90	90
92	93	106	103	97	99	98	100	96	99	92	91	97	98
100	100	100	100	100	100	100	100	100	100	100	100	100	100
94	93	93	95	134	131	96	95	105	106	104	104	107	106
98	98	92	94	141	137	104	106	107	108	101	101	109	109

Annex IV.

AND RAW MATERIALS WEIGHTED BY : (a) 1926 VALUES ; (b) 1928 VALUES.

World Totals = 100.

North America		Caribbean		South America		Africa		Asia		Oceania		World	
(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)
30.6	32.4	0.9	1.0	4.2	4.3	2.3	2.3	8.4	7.7	1.3	1.0	100	
38.2	39.6	0.8	0.9	6.2	6.1	2.5	2.6	7.5	7.0	1.7	1.2	100	
36.3	37.6	0.9	1.0	5.4	5.3	2.7	2.8	8.1	7.5	2.3	1.9	100	
33.7	35.4	0.6	0.7	5.5	5.6	2.5	2.5	6.7	6.3	1.4	1.1	100	
33.4	34.7	0.7	0.8	5.6	5.6	2.4	2.5	6.7	6.3	1.9	1.5	100	
35.3	36.7	0.7	0.7	5.8	5.7	2.6	2.6	7.0	6.7	1.5	1.2	100	
36.2	37.6	0.6	0.7	5.8	5.6	2.6	2.7	6.0	5.7	1.8	1.5	100	
19.6	21.7	1.7	1.8	3.0	3.2	2.0	2.1	26.3	26.8	1.1	1.0	100	
23.8	25.9	2.5	2.5	4.6	4.8	2.3	2.4	26.0	26.6	1.3	1.2	100	
21.2	23.0	3.2	3.2	3.9	4.0	2.4	2.5	27.8	28.7	1.7	1.6	100	
20.3	22.5	2.7	2.7	4.1	4.3	2.2	2.4	25.3	26.0	1.3	1.2	100	
20.6	22.4	2.6	2.6	4.2	4.4	2.2	2.3	25.7	26.4	1.6	1.4	100	
21.4	23.3	2.4	2.5	4.2	4.4	2.4	2.5	25.2	26.1	1.4	1.3	100	
22.0	24.0	2.7	2.7	4.2	4.2	2.2	2.4	24.8	25.8	1.6	1.4	100	
29.4	27.4	1.7	1.8	13.5	13.8	3.2	3.7	5.3	6.2	2.9	3.2	100	
38.5	34.7	1.8	1.9	13.0	14.2	3.3	3.9	6.4	7.1	2.9	3.2	100	
36.4	33.0	1.6	1.8	12.7	13.9	3.2	3.8	6.3	7.0	2.7	3.0	100	
33.6	31.0	1.7	1.8	12.7	13.8	3.2	3.8	6.5	7.1	2.6	2.9	100	
33.2	30.8	1.7	1.8	12.9	13.9	3.4	4.0	6.3	6.9	2.6	2.9	100	
32.4	29.9	1.7	1.8	12.6	13.7	3.5	4.2	6.5	7.0	2.7	3.0	100	
30.7	28.1	1.7	1.7	12.9	14.2	3.3	4.0	6.1	6.7	2.7	3.0	100	
15.0	13.9	7.5	7.7	25.7	25.4	2.5	2.8	35.0	39.4	0.2	0.2	100	
15.9	15.3	6.9	6.7	29.5	27.3	6.0	6.0	31.7	36.6	0.3	0.2	100	
13.6	12.7	6.4	6.4	26.3	24.3	6.8	6.9	33.3	39.4	0.3	0.3	100	
13.4	13.5	6.4	6.5	22.6	22.4	6.0	7.2	38.9	39.5	0.2	0.3	100	
12.9	13.0	6.0	6.2	23.5	23.4	6.8	7.5	38.2	38.9	0.2	0.3	100	
10.5	10.6	6.2	6.5	33.3	33.0	5.8	6.5	33.3	34.3	0.3	0.2	100	
12.2	12.4	6.5	6.6	30.2	30.0	5.8	6.9	35.0	35.7	0.2	0.2	100	
18.0	19.0	0.4	0.4	4.9	4.9	11.1	10.5	42.4	39.6	0.7	0.5	100	
13.1	14.1	0.4	0.4	8.0	8.0	12.6	12.3	43.6	39.7	1.1	0.9	100	
16.2	17.4	0.4	0.4	5.9	5.9	11.8	11.4	43.1	39.0	1.0	0.8	100	
15.6	17.0	0.4	0.4	8.5	8.5	13.1	12.8	42.4	38.9	1.0	0.8	100	
16.9	18.7	0.6	0.6	8.0	8.1	13.4	13.0	42.9	39.1	1.0	0.9	100	
12.4	13.3	0.3	0.3	7.9	7.8	11.2	10.6	42.5	38.5	1.0	0.9	100	
13.4	14.7	0.4	0.4	8.6	8.8	12.9	12.7	46.7	42.9	1.0	0.9	100	
29.7	29.6	0.5	0.5	5.5	5.7	5.1	5.2	32.4	29.1	7.7	8.1	100	
25.6	25.9	0.5	0.5	6.5	6.8	5.7	5.8	36.6	33.5	8.6	9.2	100	
29.4	29.5	0.5	0.5	5.6	5.9	5.7	5.8	35.2	32.4	7.0	7.5	100	
30.7	30.8	0.4	0.4	5.3	5.5	5.7	5.9	33.7	30.9	6.9	7.3	100	
32.5	32.9	0.6	0.6	4.9	5.2	5.4	5.6	32.5	29.3	7.4	7.9	100	
26.4	26.6	0.4	0.4	5.3	5.5	5.0	5.2	35.9	32.9	8.1	8.7	100	
27.8	28.1	0.5	0.5	5.2	5.4	5.7	5.9	33.6	30.8	7.4	7.9	100	
—	—	—	—	39.5	39.5	15.8	15.8	44.7	44.7	—	—	100	
—	—	—	—	5.2	5.2	0.8	0.8	94.0	94.0	—	—	100	
—	—	—	—	5.3	5.3	0.8	0.8	93.9	93.9	—	—	100	
—	—	—	—	5.4	5.4	1.0	1.0	93.6	93.6	—	—	100	
—	—	—	—	4.5	4.5	1.2	1.2	94.3	94.3	—	—	100	
—	—	—	—	4.9	4.9	1.1	1.1	94.0	94.0	—	—	100	
—	—	—	—	3.8	3.8	0.9	0.9	95.3	95.3	—	—	100	

Annex IV (concluded).

PERCENTAGE DISTRIBUTION OF AGGREGATE PRODUCTION OF FOODSTUFFS

World Totals = 100.

Groups of Products	Years	Eastern and Central Europe				Rest of Europe (Western and Maritime)		Europe			
		Excluding U.S.S.R.		Including U.S.S.R.		(a)	(b)	Excluding U.S.S.R.		Including U.S.S.R.	
		(a)	(b)	(a)	(b)			(a)	(b)	(a)	(b)
Wood-Pulp	1913	24.8	24.9	27.7	27.8	32.0	32.3	56.8	57.2	59.7	60.1
	1923	15.3	15.4	15.7	15.8	29.1	29.4	44.4	44.8	44.8	45.2
	1924	16.5	16.6	17.2	17.2	31.2	31.6	47.7	48.2	48.4	48.8
	1925	18.4	18.5	18.9	19.0	30.8	31.0	49.2	49.5	49.7	50.0
	1926	18.0	18.0	18.9	19.0	29.5	29.8	47.5	47.8	48.4	48.8
	1927	18.6	18.7	19.7	19.7	30.6	30.9	49.2	49.6	50.3	50.6
	1928	19.2	19.3	20.3	20.4	28.6	28.8	47.8	48.1	48.9	49.2
Cement	1913	27.1	27.1	31.7	31.7	23.6	23.6	50.7	50.7	55.3	55.3
	1923	12.2	12.2	12.7	12.7	26.4	26.4	38.6	38.6	39.1	39.1
	1924	12.3	12.3	13.1	13.1	26.7	26.7	39.0	39.0	39.8	39.8
	1925	14.2	14.2	15.4	15.4	25.7	25.7	39.9	39.9	41.1	41.1
	1926	13.9	13.9	16.1	16.1	26.3	26.3	40.2	40.2	42.4	42.4
	1927	15.5	15.5	17.9	17.9	26.7	26.7	42.2	42.2	44.6	44.6
	1928	16.0	16.0	18.8	18.8	27.1	27.1	43.1	43.1	45.9	45.9
Fuels	1913	16.8	16.8	20.5	20.7	27.5	27.0	44.3	43.8	48.0	47.7
	1923	9.4	9.4	11.0	11.0	22.8	22.0	32.2	31.4	33.8	33.0
	1924	13.1	12.9	15.1	15.0	23.2	22.3	36.3	35.2	38.3	37.3
	1925	13.6	13.5	15.9	15.8	21.5	20.6	35.1	34.1	37.4	36.4
	1926	15.1	14.8	18.1	18.0	14.7	14.1	29.8	28.9	32.8	32.1
	1927	14.6	14.4	18.0	17.8	20.8	19.9	35.4	34.3	38.8	37.7
	1928	15.0	14.8	18.8	18.7	20.2	19.3	35.2	34.1	39.0	38.0
Metals	1913	18.9	18.8	23.2	23.2	27.3	27.1	46.2	45.9	50.5	50.3
	1923	10.0	9.9	10.5	10.5	22.7	22.5	32.7	32.4	33.2	33.0
	1924	12.8	12.8	13.7	13.7	26.1	25.8	38.9	38.6	39.8	39.5
	1925	13.8	13.8	15.4	15.3	23.8	23.6	37.6	37.4	39.2	38.9
	1926	13.6	13.6	15.9	15.9	21.9	21.6	35.5	35.2	37.8	37.5
	1927	16.5	16.5	19.1	19.2	24.5	24.2	41.0	40.7	43.6	43.4
	1928	14.7	14.7	17.6	17.5	24.2	23.9	38.9	38.6	41.8	41.4
Chemicals (fertilisers) . .	1913	23.3	25.0	23.7	25.4	31.3	31.3	54.6	56.3	55.0	56.7
	1923	21.1	22.2	21.2	22.2	32.9	32.9	54.0	55.1	54.1	55.1
	1924	22.9	23.8	23.0	23.9	33.0	33.2	55.9	57.0	56.0	57.1
	1925	25.8	26.9	25.9	27.1	30.9	31.0	56.7	57.9	56.8	58.1
	1926	26.4	27.1	26.6	27.3	31.7	31.9	58.1	59.0	58.3	59.2
	1927	29.3	30.0	29.5	30.2	32.1	32.1	61.4	62.1	61.6	62.3
	1928	25.8	26.7	26.1	27.0	29.4	29.6	55.2	56.3	55.5	56.6
Total Production	1913	17.3	16.4	26.5	26.2	16.3	14.9	33.6	31.3	42.8	41.1
	1923	12.6	12.2	19.0	18.9	15.0	13.9	27.6	26.1	34.0	32.8
	1924	13.5	12.8	20.2	19.9	15.5	14.3	29.0	27.1	35.7	34.2
	1925	14.3	13.6	22.7	22.3	15.0	13.9	29.3	27.5	37.7	36.2
	1926	13.7	13.1	22.9	22.6	13.3	12.7	27.0	25.8	36.2	35.3
	1927	14.5	13.7	22.9	22.5	15.1	14.2	29.6	27.9	38.0	36.7
	1928	15.0	14.2	23.3	22.8	14.5	13.6	29.5	27.8	37.8	36.4
Foodstuffs	1913	19.9	18.5	32.2	30.8	13.6	12.7	33.5	31.2	45.8	43.5
	1923	15.8	14.7	25.5	24.1	12.9	12.2	28.7	26.9	38.4	36.3
	1924	16.1	14.8	26.1	24.8	13.1	12.3	29.2	27.1	39.2	37.1
	1925	17.3	16.0	29.9	28.2	13.4	12.5	30.7	28.5	43.3	40.7
	1926	15.9	15.1	29.9	28.5	12.6	11.8	28.5	26.9	42.5	40.3
	1927	16.9	15.6	29.7	28.0	12.8	12.0	29.7	27.6	42.5	40.0
	1928	18.0	16.6	30.1	28.4	12.4	11.7	30.4	28.3	42.5	40.1
Raw Materials	1913	13.4	12.7	18.1	18.2	20.3	18.6	33.7	31.3	38.4	36.8
	1923	8.1	7.9	10.1	10.3	17.9	16.8	26.0	24.7	28.0	27.1
	1924	10.2	9.7	12.5	12.4	18.6	17.4	28.8	27.1	31.1	29.8
	1925	10.4	9.9	13.3	13.3	17.1	16.1	27.5	26.0	30.4	29.4
	1926	10.8	10.1	14.0	13.8	14.2	14.0	25.0	24.1	28.2	27.8
	1927	11.6	10.9	14.8	14.6	17.8	17.4	29.4	28.3	32.6	32.0
	1928	11.4	10.8	14.9	14.7	17.1	16.4	28.5	27.2	32.0	31.1

Annex IV (concluded).

AND RAW MATERIALS WEIGHTED BY : (a) 1926 VALUES ; (b) 1928 VALUES.

World Totals = 100.

North America		Caribbean		South America		Africa		Asia		Oceania		World	
(a)	(b)	(a)		(b)		(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)
39.2	38.8	0.3		0.3		—	—	0.8	0.8	—	—		100
51.7	51.4	0.2		0.2		—	—	3.3	3.2	—	—		100
48.2	47.9	0.2		0.2		—	—	3.2	3.1	—	—		100
46.8	46.5	0.3		0.3		—	—	3.2	3.2	—	—		100
47.8	47.4	0.3		0.3		—	—	3.5	3.5	—	—		100
45.8	45.5	0.3		0.3		—	—	3.6	3.6	—	—		100
47.1	46.8	0.3		0.3		—	—	3.7	3.7	—	—		100
		(a)	(b)	(a)	(b)								
41.4	41.4	—	—	—	—	—	—	2.9	2.9	0.4	0.4		100
54.0	54.0	—	—	—	—	—	—	6.2	6.2	0.7	0.7		100
53.4	53.4	—	—	—	—	—	—	6.0	6.0	0.8	0.8		100
51.8	51.8	—	—	—	—	—	—	6.3	6.3	0.8	0.8		100
49.3	49.3	—	—	—	—	—	—	7.2	7.2	1.1	1.1		100
47.2	47.2	—	—	—	—	—	—	7.1	7.1	1.1	1.1		100
46.3	46.3	—	—	—	—	—	—	6.9	6.9	0.9	0.9		100
44.9	45.1	0.7	0.8	0.2	0.2	0.6	0.6	4.6	4.6	1.0	1.0		100
54.4	54.9	3.4	3.8	0.4	0.4	0.7	0.7	6.4	6.4	0.9	0.8		100
49.1	49.9	3.3	3.6	0.6	0.7	0.8	0.8	6.9	6.8	1.0	0.9		100
50.0	50.8	2.7	3.0	0.9	1.0	0.8	0.8	7.2	7.1	1.0	0.9		100
54.6	55.1	2.2	2.4	1.5	1.6	0.9	0.8	7.1	7.1	0.9	0.9		100
49.4	50.2	1.4	1.6	2.0	2.3	0.8	0.7	6.7	6.6	0.9	0.9		100
48.5	49.2	1.2	1.3	3.1	3.4	0.8	0.7	6.6	6.6	0.8	0.8		100
41.5	42.1	1.7	1.7	0.6	0.7	0.1	0.1	4.2	3.8	1.4	1.3		100
55.4	55.9	2.3	2.3	2.0	2.2	0.6	0.6	5.2	4.8	1.3	1.2		100
48.2	48.7	2.2	2.1	1.9	2.2	0.7	0.8	5.8	5.4	1.4	1.3		100
49.6	50.0	2.1	2.1	1.8	2.0	0.7	0.7	5.2	5.0	1.4	1.3		100
50.8	51.3	2.3	2.2	1.8	2.0	0.6	0.7	5.3	5.0	1.4	1.3		100
45.1	45.4	2.2	2.2	1.9	2.1	0.6	0.7	5.3	5.0	1.3	1.2		100
46.8	47.2	2.2	2.1	2.1	2.4	0.7	0.8	5.2	4.9	1.2	1.2		100
15.2	15.0	0.0	0.0	24.3	22.7	1.8	1.9	1.9	1.9	1.8	1.8		100
22.7	22.7	0.1	0.1	16.3	15.2	1.9	2.0	3.3	3.3	1.6	1.6		100
17.7	17.7	0.1	0.1	18.8	17.6	2.3	2.4	3.4	3.4	1.7	1.7		100
18.2	18.1	0.0	0.0	17.3	16.1	2.2	2.3	3.4	3.3	2.1	2.1		100
19.8	19.8	0.1	0.1	13.7	12.8	2.3	2.4	3.8	3.8	2.0	1.9		100
19.1	19.1	0.1	0.1	10.6	9.9	2.6	2.7	4.1	4.0	1.9	1.9		100
19.5	19.6	0.0	0.0	17.6	16.5	2.1	2.2	3.6	3.5	1.7	1.6		100
27.2	26.9	1.6	1.7	4.8	5.2	2.3	2.5	19.5	20.7	1.8	1.9		100
32.9	32.1	2.4	2.4	5.9	6.4	2.6	2.9	20.3	21.4	1.9	2.0		100
30.3	29.5	2.6	2.6	5.4	5.9	2.8	3.1	21.2	22.5	2.0	2.2		100
29.6	29.3	2.3	2.3	5.3	5.9	2.7	3.1	20.6	21.3	1.8	1.9		100
30.8	30.2	2.2	2.2	5.4	5.9	2.7	3.1	20.7	21.2	2.0	2.1		100
29.1	28.6	2.0	2.1	6.0	6.4	2.7	3.0	20.3	21.1	1.9	2.1		100
29.4	29.1	2.1	2.1	6.1	6.5	2.7	3.1	20.0	20.7	1.9	2.1		100
21.4	22.7	1.8	1.8	5.0	5.2	2.2	2.4	22.4	23.0	1.4	1.4		100
26.6	27.6	2.4	2.4	6.2	6.5	2.5	2.7	22.3	22.9	1.6	1.6		100
24.3	25.0	2.9	2.9	5.7	6.0	2.5	2.8	23.5	24.3	1.9	1.9		100
22.8	24.1	2.5	2.5	5.7	6.1	2.4	2.6	21.8	22.5	1.5	1.5		100
23.0	24.1	2.4	2.5	5.9	6.2	2.4	2.6	22.0	22.6	1.8	1.7		100
23.5	24.5	2.3	2.4	5.8	6.2	2.6	2.9	21.6	22.4	1.7	1.6		100
23.8	24.8	2.5	2.5	5.9	6.2	2.4	2.7	21.1	22.0	1.8	1.7		100
35.6	34.1	1.4	1.4	4.6	5.2	2.3	2.8	15.3	16.8	2.4	2.9		100
41.6	39.3	2.5	2.4	5.3	6.2	2.8	3.4	17.5	18.8	2.3	2.8		100
38.1	36.5	2.3	2.2	5.0	5.7	3.0	3.6	18.3	19.6	2.2	2.6		100
38.5	37.2	2.0	2.0	4.9	5.6	3.1	3.8	18.9	19.4	2.2	2.6		100
40.5	39.2	1.9	1.9	4.9	5.5	3.1	3.7	19.1	19.1	2.3	2.8		100
35.8	34.3	1.6	1.7	6.1	6.8	2.8	3.3	18.8	19.1	2.3	2.8		100
36.4	35.3	1.6	1.6	6.3	6.9	2.9	3.6	18.7	18.9	2.1	2.6		100

Annex V.

MATERIALS BY GROUPS OF PRODUCTS WEIGHTED BY: (a) 1926 VALUES; (b) 1928 VALUES.
Total of Each Continent = 100.

North America		Caribbean		South America		Africa		Asia		Oceania		World	
(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)
32.1	39.4	16.8	20.9	25.1	27.0	28.6	29.4	12.2	12.2	19.9	17.9	28.5	32.8
31.4	38.7	8.8	11.6	28.9	30.0	26.1	26.9	10.0	10.2	22.2	19.7	27.0	31.3
28.8	35.2	8.1	10.7	24.2	25.1	23.8	25.1	9.1	9.2	27.0	24.3	24.0	27.7
29.4	36.0	6.6	8.6	26.7	28.4	23.9	24.5	8.5	8.8	19.6	17.5	25.8	29.8
27.8	33.9	7.7	9.9	26.4	28.0	22.9	23.8	8.3	8.8	24.2	21.5	25.6	29.4
29.9	36.3	8.0	10.2	23.9	25.4	23.5	24.5	8.5	8.9	18.9	16.8	24.5	28.4
30.5	36.9	7.4	9.4	23.9	24.7	23.9	24.7	7.5	7.9	23.3	20.6	24.8	28.6
2.8	2.3	36.4	35.4	5.3	4.7	13.8	13.3	52.9	54.8	9.9	9.2	19.9	19.0
2.5	2.2	39.6	41.6	8.2	7.5	14.7	14.1	50.2	52.7	10.6	9.9	19.9	19.2
2.9	2.5	46.9	48.5	8.8	8.0	15.4	14.7	50.1	52.7	11.8	11.4	21.3	20.8
2.2	1.9	47.6	49.4	8.3	7.7	14.1	13.5	48.2	51.5	13.4	12.7	20.3	19.5
2.3	1.9	46.3	47.5	8.5	7.7	13.1	12.5	47.4	51.2	11.2	10.6	19.3	18.8
2.6	2.3	46.2	48.9	7.2	6.8	15.9	15.2	46.3	49.8	13.0	12.3	19.7	19.0
2.7	2.2	50.0	50.6	6.6	6.3	13.3	12.6	47.3	51.0	12.5	12.0	19.5	18.8
12.0	12.1	12.3	12.5	31.1	31.8	15.7	17.3	3.0	3.6	17.6	19.5	11.1	11.9
12.8	12.8	8.2	9.2	24.4	26.2	13.7	15.6	3.4	3.9	16.5	18.4	10.9	11.8
13.7	13.8	7.3	8.2	27.0	29.2	13.2	15.0	3.4	3.9	15.2	17.5	11.4	12.3
11.9	12.1	7.6	8.7	25.1	26.8	12.6	14.3	3.3	3.8	15.1	17.1	10.5	11.4
11.5	11.8	8.3	9.3	25.2	27.1	13.4	15.3	3.3	3.8	13.8	15.4	10.6	11.6
11.7	12.0	8.9	10.0	22.3	24.5	13.8	15.8	3.3	3.9	15.0	16.6	10.5	11.5
11.4	11.3	8.7	9.5	23.2	25.7	13.6	15.3	3.4	3.8	15.1	16.6	10.9	11.7
1.6	1.6	15.3	14.6	17.2	15.7	3.7	3.6	6.4	6.1	0.5	0.3	3.2	3.2
1.8	1.9	10.4	10.8	18.4	16.6	8.4	8.1	5.7	6.7	0.6	0.3	3.7	3.9
1.7	1.7	8.9	9.4	17.8	16.2	9.0	8.7	5.7	6.8	0.5	0.3	3.6	3.9
1.7	1.7	10.4	10.5	15.8	14.2	8.3	8.6	7.1	6.9	0.5	0.3	3.7	3.7
1.6	1.6	10.1	10.1	16.0	14.5	9.3	9.1	6.8	6.8	0.4	0.3	3.7	3.7
1.5	1.5	13.0	12.9	23.3	21.3	9.1	8.9	6.8	6.7	0.5	0.4	4.2	4.1
1.6	1.6	12.1	11.9	19.1	17.8	8.4	8.6	6.7	6.6	0.5	0.3	3.9	3.8
1.7	2.1	0.6	0.7	2.6	2.7	12.5	12.2	5.5	5.5	0.9	0.8	2.5	2.9
1.1	1.3	0.5	0.6	3.8	3.8	13.2	12.7	5.9	5.6	1.6	1.4	2.7	3.0
1.6	2.0	0.4	0.5	3.3	3.4	13.1	12.4	6.2	5.9	1.5	1.3	3.0	3.4
1.6	1.9	0.5	0.5	4.8	4.9	14.6	13.9	6.2	6.1	1.6	1.4	3.0	3.3
1.6	2.0	0.7	0.8	4.3	4.4	14.4	13.8	6.0	5.9	1.6	1.4	2.9	3.2
1.4	1.7	0.5	0.6	4.3	4.5	13.6	12.9	6.8	6.7	1.7	1.5	3.2	3.7
1.3	1.7	0.6	0.7	4.1	4.4	14.1	13.4	6.8	6.7	1.6	1.4	2.9	3.2
9.1	10.8	2.7	3.0	9.5	10.8	18.8	20.2	13.8	13.7	35.3	40.9	8.3	9.8
5.8	7.1	1.4	1.7	8.4	9.3	16.3	17.4	13.5	13.8	34.0	39.7	7.5	8.8
8.2	9.9	1.5	1.8	8.9	9.9	17.4	18.4	14.0	14.3	29.2	34.4	8.4	9.9
9.1	10.8	1.6	1.9	8.7	9.6	18.5	19.6	14.4	15.0	33.5	39.0	8.8	10.3
9.8	11.8	2.7	3.1	8.3	9.4	18.5	19.7	14.6	14.9	34.0	39.8	9.3	10.8
7.6	9.2	1.6	1.8	7.4	8.5	15.7	16.8	14.8	15.5	35.3	41.0	8.4	9.9
8.2	9.8	2.1	2.3	7.3	8.5	18.5	19.5	14.5	15.2	33.0	38.6	8.6	10.2
—	—	—	—	2.0	0.9	1.7	0.7	0.6	0.3	—	—	0.3	0.1
—	—	—	—	0.9	0.4	0.3	0.1	3.5	1.6	—	—	0.8	0.4
—	—	—	—	1.0	0.4	0.3	0.1	3.6	1.6	—	—	0.8	0.4
—	—	—	—	1.1	0.5	0.4	0.2	4.2	2.0	—	—	0.9	0.5
—	—	—	—	1.0	0.4	0.6	0.2	5.4	2.5	—	—	1.2	0.6
—	—	—	—	1.1	0.5	0.6	0.2	5.1	2.4	—	—	1.1	0.5
—	—	—	—	0.7	0.3	0.4	0.2	5.4	2.5	—	—	1.1	0.6

Annex V (concluded).

PERCENTAGE DISTRIBUTION OF AGGREGATE PRODUCTION OF FOODSTUFFS AND RAW
Total of Each Continent = 100.

Groups of Products	Years	Eastern and Central Europe				Rest of Europe (Western and Maritime)		Europe			
		Excluding U.S.S.R.		Including U.S.S.R.		(a)	(b)	Excluding U.S.S.R.		Including U.S.S.R.	
		(a)	(b)	(a)	(b)			(a)	(b)	(a)	(b)
Wood-pulp	1913	1.2	1.0	0.8	0.7	1.6	1.5	1.3	1.3	1.1	1.0
	1923	1.2	1.1	0.8	0.7	1.9	1.8	1.6	1.4	1.3	1.2
	1924	1.2	1.1	0.8	0.7	2.0	2.0	1.6	1.5	1.4	1.2
	1925	1.3	1.2	0.9	0.8	2.1	2.0	1.7	1.6	1.4	1.2
	1926	1.5	1.4	0.9	0.8	2.5	2.3	2.0	1.8	1.5	1.4
	1927	1.5	1.4	1.0	0.9	2.3	2.2	1.9	1.8	1.5	1.4
	1928	1.5	1.4	1.0	0.9	2.2	2.1	1.8	1.7	1.5	1.4
Cement	1913	1.5	1.7	1.2	1.3	1.4	1.7	1.5	1.7	1.3	1.4
	1923	1.0	1.1	0.7	0.8	1.8	2.1	1.4	1.6	1.2	1.3
	1924	1.0	1.1	0.7	0.8	1.8	2.1	1.4	1.7	1.2	1.4
	1925	1.1	1.3	0.8	0.8	1.9	2.3	1.6	1.8	1.3	1.4
	1926	1.4	1.5	0.9	1.0	2.4	2.7	1.9	2.1	1.5	1.6
	1927	1.6	1.8	1.1	1.2	2.3	2.6	2.0	2.2	1.6	1.8
	1928	1.7	2.0	1.2	1.4	2.4	2.8	2.1	2.4	1.7	1.9
Fuels	1913	14.5	9.6	11.6	7.4	25.2	17.1	19.7	13.2	16.8	10.9
	1923	12.1	8.0	9.4	6.1	24.7	16.7	19.0	12.7	16.2	10.6
	1924	15.5	10.5	12.0	7.8	23.9	16.2	20.0	13.5	17.1	11.3
	1925	14.3	9.6	10.5	6.9	21.5	14.4	18.0	12.0	14.9	9.8
	1926	16.5	11.0	11.9	7.8	16.5	10.8	16.5	10.9	13.6	8.8
	1927	15.8	10.8	12.2	8.2	21.5	14.4	18.7	12.7	15.9	10.6
	1928	15.0	10.2	12.1	8.0	20.8	14.0	17.9	12.1	15.4	10.3
Metals	1913	9.1	9.3	7.3	7.2	13.9	14.8	11.5	11.9	9.8	9.9
	1923	6.4	6.5	4.5	4.5	12.3	12.9	9.6	9.9	7.9	8.0
	1924	7.8	8.0	5.5	5.5	13.8	14.5	11.0	11.4	9.1	9.3
	1925	8.2	8.4	5.8	5.7	13.6	14.2	11.0	11.3	8.9	9.0
	1926	8.8	9.0	6.1	6.1	14.5	14.7	11.6	11.8	9.2	9.2
	1927	10.3	10.7	7.5	7.6	14.7	15.2	12.5	13.0	10.4	10.5
	1928	9.2	9.6	7.1	7.2	15.8	16.4	12.4	12.9	10.4	10.6
Chemicals (fertilisers) . .	1913	1.5	1.7	1.0	1.1	2.1	2.4	1.8	2.0	1.4	1.6
	1923	1.8	2.0	1.2	1.3	2.4	2.7	2.2	2.4	1.8	1.9
	1924	2.0	2.3	1.4	1.4	2.5	2.8	2.3	2.6	1.9	2.0
	1925	2.3	2.5	1.4	1.6	2.6	2.9	2.4	2.7	1.9	2.0
	1926	2.4	2.7	1.5	1.6	3.0	3.2	2.7	2.9	2.0	2.2
	1927	2.5	2.9	1.6	1.7	2.7	2.9	2.6	2.9	2.0	2.2
	1928	2.4	2.7	1.6	1.7	2.9	3.1	2.6	2.9	2.1	2.2
<i>Total Production</i>	1913-1928	100	100	100	100	100	100	100	100	100	100
Foodstuffs	1913	68.5	71.9	72.3	74.7	49.7	54.5	59.3	63.6	63.7	67.4
	1923	72.7	75.4	77.6	79.4	49.8	54.4	60.2	64.3	65.3	68.9
	1924	67.2	70.3	73.2	75.7	47.9	52.2	56.9	60.7	62.2	65.9
	1925	68.4	71.5	74.5	76.5	50.5	54.4	59.2	62.9	64.9	68.1
	1926	64.9	68.9	72.8	75.4	52.5	55.6	58.8	62.4	65.3	68.3
	1927	63.9	67.1	70.8	73.2	46.5	49.6	55.0	58.1	61.1	64.1
	1928	65.9	68.9	71.3	73.6	47.2	50.7	56.7	60.0	62.1	65.0
Raw Materials	1913	31.5	28.1	27.7	25.3	50.3	45.5	40.7	36.4	36.3	32.6
	1923	27.3	24.6	22.4	20.6	50.2	45.6	39.8	35.7	34.7	31.1
	1924	32.8	29.7	26.8	24.3	52.1	47.8	43.1	39.3	37.8	34.1
	1925	31.6	28.5	25.5	23.5	49.5	45.6	40.8	37.1	35.1	31.9
	1926	35.1	31.1	27.2	24.6	47.5	44.4	41.2	37.6	34.7	31.7
	1927	36.1	32.9	29.2	26.8	53.5	50.4	45.0	41.9	38.9	35.9
	1928	34.1	31.1	28.7	26.4	52.8	49.3	43.3	40.0	37.9	35.0

Annex V (concluded).

MATERIALS, BY GROUPS OF PRODUCTS. WEIGHTED BY : (a) 1926 VALUES ; (b) 1928 VALUES.

Total of Each Continent = 100.

North America		Caribbean		South America		Africa		Asia		Oceania		World	
(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)
1.1	1.0	0.2	0.1	0.1	(0.04)	—	—	(0.03)	(0.02)	—	—	0.8	0.7
1.5	1.4	0.1	0.1	(0.03)	(0.03)	—	—	0.1	0.1	—	—	1.0	0.8
1.6	1.4	0.1	0.1	(0.04)	(0.03)	—	—	0.1	0.1	—	—	1.0	0.9
1.6	1.4	0.1	0.1	0.1	(0.04)	—	—	0.2	0.1	—	—	1.0	0.9
1.7	1.6	0.2	0.1	0.1	(0.04)	—	—	0.2	0.2	—	—	1.1	1.0
1.8	1.6	0.2	0.1	0.1	(0.04)	—	—	0.2	0.2	—	—	1.1	1.0
1.8	1.6	0.2	0.1	0.1	(0.04)	—	—	0.2	0.2	—	—	1.1	1.0
1.5	1.6	—	—	—	—	—	—	0.2	0.1	0.2	0.2	1.0	1.0
1.7	1.8	—	—	—	—	—	—	0.3	0.3	0.4	0.4	1.0	1.1
1.9	2.1	—	—	—	—	—	—	0.3	0.3	0.4	0.4	1.1	1.2
2.0	2.2	—	—	—	—	—	—	0.3	0.4	0.5	0.5	1.1	1.2
1.9	2.1	—	—	—	—	—	—	0.4	0.4	0.7	0.7	1.2	1.3
2.1	2.3	—	—	—	—	—	—	0.4	0.4	0.8	0.8	1.3	1.4
2.0	2.2	—	—	—	—	—	—	0.5	0.5	0.6	0.6	1.4	1.5
24.7	15.8	6.9	4.6	0.5	0.3	4.0	2.2	3.5	2.1	8.3	4.8	14.9	9.4
26.9	18.1	23.1	16.8	1.1	0.7	4.7	2.6	5.1	3.1	7.5	4.4	16.3	10.6
25.9	17.5	20.0	14.3	1.9	1.2	4.6	2.5	5.1	3.1	7.6	4.5	16.0	10.3
25.4	16.9	17.7	12.7	2.5	1.6	4.5	2.5	5.2	3.3	7.9	4.6	15.0	9.7
26.5	17.8	14.8	10.5	4.1	2.7	4.8	2.7	5.1	3.3	7.0	4.1	15.0	9.7
26.6	18.0	11.4	8.0	5.4	3.6	4.5	2.5	5.1	3.2	7.2	4.2	15.7	10.3
24.6	16.6	8.9	6.2	7.6	5.2	4.2	2.3	4.9	3.1	6.1	3.6	15.0	9.8
12.8	12.7	8.8	8.2	1.0	1.1	0.3	0.3	1.8	1.5	6.3	5.4	8.4	8.1
13.7	13.9	7.9	7.6	2.8	2.8	1.8	1.7	2.1	1.8	5.7	4.9	8.1	8.0
13.0	13.2	6.8	6.5	2.9	2.9	2.2	2.1	2.2	1.9	5.8	4.9	8.2	8.0
14.3	14.3	7.9	7.6	2.8	2.8	2.1	2.0	2.2	1.9	6.4	5.5	8.6	8.4
14.5	14.7	9.2	8.7	2.9	3.0	1.9	1.9	2.3	2.0	5.9	5.0	8.8	8.6
14.0	14.2	10.2	9.5	2.8	2.9	2.1	2.0	2.4	2.1	6.3	5.2	9.0	8.9
15.0	15.1	10.0	9.3	3.3	3.4	2.5	2.4	2.5	2.2	6.1	5.2	9.4	9.3
0.6	0.6	(0.01)	(0.01)	5.6	5.0	0.9	0.8	0.1	0.1	1.1	1.0	1.1	1.1
0.8	0.8	(0.02)	(0.02)	3.1	2.7	0.8	0.8	0.2	0.2	0.9	0.9	1.1	1.1
0.7	0.7	(0.02)	(0.02)	4.2	3.7	1.0	1.0	0.2	0.2	1.0	1.0	1.2	1.2
0.8	0.8	(0.02)	(0.02)	4.1	3.5	1.0	0.9	0.2	0.2	1.5	1.4	1.3	1.3
0.8	0.8	(0.03)	(0.03)	3.2	2.8	1.1	1.0	0.2	0.2	1.2	1.2	1.3	1.3
0.8	0.9	(0.03)	(0.03)	2.2	2.0	1.2	1.2	0.3	0.2	1.3	1.2	1.3	1.3
0.9	1.0	(0.03)	(0.03)	4.1	3.7	1.1	1.0	0.3	0.3	1.2	1.1	1.4	1.5
100	100	100	100	100	100	100	100	100	100	100	100	100	100
46.9	53.8	65.5	68.8	61.5	63.5	58.1	60.0	68.1	70.6	47.4	46.6	59.5	63.7
46.7	53.7	56.6	62.4	61.5	63.7	54.5	56.6	63.6	66.8	49.3	48.0	57.8	62.3
45.4	51.5	62.3	67.4	60.0	62.3	52.4	54.8	62.6	65.8	54.0	53.2	56.7	60.8
43.5	50.0	61.8	66.7	60.1	62.9	50.6	52.3	60.0	64.1	48.1	47.3	56.6	60.7
41.6	47.6	62.3	66.7	60.1	62.8	49.4	51.6	59.0	63.8	49.2	47.5	55.5	59.8
44.2	50.6	63.1	67.1	53.4	56.7	53.2	55.5	58.1	62.6	46.9	45.7	54.7	58.9
44.6	50.4	66.1	69.5	53.7	56.7	50.8	52.6	58.2	62.7	50.9	49.2	55.2	59.1
53.1	46.2	34.5	31.2	38.5	36.5	41.9	40.0	31.9	29.4	52.6	53.4	40.5	36.3
53.3	46.3	43.4	37.6	38.5	36.3	45.5	43.4	36.4	33.2	50.7	52.0	42.2	37.7
54.6	48.5	37.7	32.6	40.0	37.7	47.6	45.2	37.4	34.2	46.0	46.8	43.3	39.2
56.5	50.0	38.2	33.3	39.9	37.1	49.4	47.7	40.0	35.9	51.9	52.7	43.4	39.3
58.4	52.4	37.7	33.3	39.9	37.2	50.6	48.4	41.0	36.2	50.8	52.5	44.5	40.2
55.8	49.4	36.9	32.9	46.6	43.3	46.8	44.5	41.9	37.4	53.1	54.3	45.3	41.1
55.4	49.6	33.9	30.5	46.3	43.3	49.2	47.4	41.8	37.3	49.1	50.8	44.8	40.9

Annex VI.

NATIONAL INDICES OF INDUSTRIAL PRODUCTION.
1926 = 100.

Country	Canada (a)	United States (a)	Germany	France (b)	Poland (c)	United Kingdom		Sweden	Switzer-land	U.S.S.R.
Source	Monthly Review of Business Statistics	Federal Reserve Board	Institut für Konjunkturforschung	Statistique générale	Institut de Recherches sur le mouvement des affaires	Board of Trade (d)	London and Cambridge Economic Service	Svensk Finanstidning	Rapports économiques et stat. sociales	Institut de Conjoncture
Original base	1919-24	1923-25	1928	1913	1925-27	1924	1924	1923-24	—	1923-24
1925(average)	86	96	105	86	102	—	129	97	106	(e) 71
1926 "	100	100	100	100	100	—	100	100	100	(e) 100
1927 "	107	98	127	87	125	(107)	140	106	118	(e) 122
1928 "	118	103	127	101	141	(106)	136	101	123	(e) 147
1929 "	132	109	129	111	140	(112)	147	124	117	(f) 170
1925 I	80	98	103	87	106	—	—	104	—	61
II	81	97	108	83	99	—	136	103	110	63
III	79	97	109	83	104	—	—	83	—	66
IV	79	95	110	82	105	—	—	109	—	63
V	80	95	110	82	107	—	130	92	106	64
VI	86	94	108	81	108	—	—	99	—	69
VII	82	96	106	83	102	—	—	97	—	63
VIII	86	95	103	83	100	—	120	94	104	70
IX	85	94	105	84	101	—	—	100	—	84
X	95	97	102	88	100	—	—	93	—	89
XI	102	99	103	88	98	—	132	91	101	83
XII	93	101	96	89	92	—	—	94	—	89
1926 I	95	99	91	89	81	—	—	96	—	88
II	99	99	91	88	82	—	136	94	98	93
III	95	100	92	94	85	—	—	105	—	98
IV	102	100	92	95	88	—	—	107	—	101
V	103	99	95	96	89	—	96	94	96	88
VI	105	100	97	100	96	—	—	109	—	97
VII	101	100	96	111	100	—	—	98	—	87
VIII	96	103	101	102	107	—	76	94	99	97
IX	97	104	105	102	113	—	—	102	—	109
X	109	103	109	103	117	—	—	94	—	110
XI	107	100	114	100	123	—	93	96	107	113
XII	91	98	115	96	119	—	—	103	—	117
1927 I	103	99	116	90	115	—	—	101	—	110
II	101	101	116	90	117	—	147	100	111	115
III	118	104	122	86	114	—	—	115	—	122
IV	108	101	125	83	(c) 119	—	—	110	—	114
V	112	103	130	86	122	107	144	105	116	116
VI	111	101	129	86	122	—	—	99	—	108
VII	104	98	128	83	126	—	—	96	—	94
VIII	108	99	130	85	125	—	141	99	122	113
IX	101	97	132	86	128	—	—	107	—	127
X	104	95	132	87	129	—	—	101	—	132
XI	103	92	134	90	131	—	143	110	123	129
XII	111	93	127	91	132	—	—	110	—	138

(a) Adjusted for seasonal variations.

(b) Partly adjusted for seasonal variations.

(c) Adjusted for seasonal variations since April 1927.

(d) Original base has not been changed, as figures for 1926 are not available.

(e) Year ending September 30th.

(f) Average for the period from October, 1928, to August, 1929.

Annex VI (concluded).
NATIONAL INDICES OF INDUSTRIAL PRODUCTION.
 1926 = 100.

Country	Canada (a)	United States (a)	Germany	France (b)	Poland (c)	United Kingdom		Sweden	Switzer-land	U.S.S.R.
Source	Monthly Review of Business Statistics	Federal Reserve Board	Institut für Konjunkturforschung	Statistique générale	Institut de Recherches sur le mouvement des affaires	Board of Trade (d)	London and Cambridge Economic Service	Svensk Finanstidning	Rapports économiques et stat. sociales	Institut de Conjonture
Original base	1919-24	1923-25	1928	1913	1925-27	1924	1924	1923-24	—	1923-24
1928 I	110	97	125	93	134			76		141
II ...	114	101	129	94	138	(109)	140	64	124	138
III ...	115	101	133	97	139			69		140
IV ...	110	101	133	98	138			96		128
V	129	101	130	101	137	(104)	138	107	126	139
VI ...	121	101	130	102	140			112		133
VII ..	118	102	132	103	139			96		124
VIII..	124	104	129	103	142	(100)	127	103	123	144
IX....	118	106	129	102	142			109		150
X	128	106	124	104	142			115		159
XI....	120	104	107	105	147	(108)	140	122	121	149
XII ..	113	106	116	106	148			117		158
1929 I	143	108	121	109	149			136		161
II ...	139	108	115	108	138	(110)	144	123	114	154
III ...	137	110	125	110	142			124		165
IV ...	135	113	137	110	146			134		173
V	137	114	138	110	141	(112)	147	119	119	145
VI ...	130	117	139	112	139			118		160
VII ..	132	115	133	110	137			118		158
VIII..	133	114	131	110	138	(111)	144	122	120	166
IX....	120	112	129	110	140			120		...
X	135	108	128	112	141			123		...
XI....	134	98	127	113	137	(114)	153	126	111	...
XII ..	110	92	121	114	136			119		...

- (a) Adjusted for seasonal variations.
- (b) Partly adjusted for seasonal variations.
- (c) Adjusted for seasonal variations since April 1927.
- (d) Original base has not been changed, as figures for 1926 are not available.

Official No. : **E. 529 (1).**

Geneva, April 29th, 1930.

LEAGUE OF NATIONS

ECONOMIC AND FINANCIAL SECTION

REVIEW

OF THE

**LEGAL ASPECTS
OF INDUSTRIAL AGREEMENTS**

Prepared for the Economic Committee

by

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Series of League of Nations Publications

II. ECONOMIC AND FINANCIAL

1930. II. 11. ✓

NOTE BY THE SECRETARIAT.

The phenomenon of industrial and commercial agreements was carefully considered by the International Economic Conference of 1927, not merely from the economic standpoint, but also as regards the judicial regime to which such agreements are subject in the various countries, either through the operation of the common law (*droit commun*) or through that of the specific legislative or administrative measures applicable to them.

At its 1928 session, the Economic Consultative Committee expressed itself in greater detail regarding the enquiries to be undertaken into the legal framework of the problem, and decided that it was necessary to study the various legal forms in which agreements develop and the legal framework within which that development takes place.

It therefore recommended that a study be made of the status and juridical form of industrial and commercial agreements and of the legislation applicable to them.

The Economic Committee accordingly instructed three legal experts to draw up a detailed statement on the character and development of the principles which form the basis of the law in force in the various countries, and more particularly the modern conception as expressed not only in the legal texts, but also in jurisprudence and administrative custom.

While the experts were at work, they saw that the enquiry would have at the same time to deal with the main features of the economic and juridical forms assumed by such agreements in the course of their historical and economic development.

The experts' report is only a reflection of their individual ideas and a contribution to the Economic Committee's work on the general aspects presented by industrial and commercial agreements. The Economic Committee will only be able to make use of this report and of the conclusions of the legal experts during the course, or at the end, of the further investigations to be devoted to all the various phases of this vast problem.

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A. THE LAWS GOVERNING INDUSTRIAL AND COMMERCIAL COMBINATIONS.

The Economic Committee of the League of Nations entrusted to the three undersigned lawyers the duty of "drawing up a preliminary statement on the character and development of the principles upon which the laws in force in the different countries are based, and in particular on the standpoint at present adopted, as expressed, not only in the legislative tests, but by jurisprudence and administrative practice".

I. DIFFERENT TYPES OF INDUSTRIAL AND COMMERCIAL COMBINATIONS.

Before dealing separately with the laws of each of the countries studied, it would first seem desirable to define the different types of agreements existing at present and generally referred to by the names of cartels, trusts, corners; combines, consortiums conferences, etc., and then to summarise the more general features of the legal, judicial and administrative rules by which they are governed.

It is only after examining and comparing the different legislations now in force in these different countries that we can know their present tendencies and discover how far these national regulations are likely to affect international combinations beyond the political frontiers.

It should first be observed that the main object of all industrial or commercial combinations is to replace individual and completely free competition by a collective organisation intended to regulate and rationalise production and to influence prices with a view to their stabilisation.

The means employed to this end are legion. The combinations of interests assume a multiplicity of forms, some of them very simple, some very complicated.

They may, however, be classified in two main types : the cartel and the trust.

The cartel is, first of all, distinguished from the trust in that it does not necessarily constitute a legal entity with property of its own, distinct from that of its members. It is essentially a contractual agreement between individuals or companies who, without sacrificing their separate commercial or industrial existence, agree to pursue by concerted action a specific economic result. The International Steel Combine, for example, is a cartel. The same is true of the agreements on maritime freights known as conferences, which are genuine international cartels concluded by the shipping companies of different countries.

In some cases, however, a cartel, for reasons of practical convenience, takes on the outward form of a company proper, with a separate legal personality, but this company is really no more than an executive instrument. In point of fact, it operates on account and for the profit of the members of the cartels. Thus, joint selling or purchasing agencies frequently assume the form of commercial companies. At the same time, their capital is generally very small. They are, strictly speaking, real cartels operating without making large profits, and working in fact for the exclusive profit of their members.

The trust, on the other hand, is a company proper in the full juridical and commercial sense of the term. It always has its own independent existence, legally separate from that of its members. It has a capital which is its personal property and it enters

into contracts with third parties on its own account. The trust essentially seeks to make profits for itself. That is the very purpose of its existence. It influences, either directly or indirectly, other undertakings in which it has financial, commercial or industrial interests and which it keeps subordinate to itself and from which it draws dividends.

We may quote as examples the United States Steel Corporation, and, in Europe, the Swedish Match Trust (*Svenska Tändstick Aktiebolaget*).

(a) *Legal Forms assumed by Cartels.*

Cartels are sometimes simple tacit arrangements or verbal agreements of the kind which Anglo-Saxon countries call a friendly agreement or gentleman's agreement and which have not really the legal characteristics of a contract proper.

In other cases, cartels unite their members by closer ties. They are then real contracts in the proper sense of the term. They are concluded for a specified or unspecified period between a certain number of hitherto competing firms which agree, for example, to fix their quotas of production, delimit their respective markets either in the home country or on the export market, regulate market zones and selling prices, communicate to each other new processes, standardise types of manufacture, make uniform terms for the purchase of raw materials or the sale of finished products or, again, to restrict certain special factories to specified manufactures with a view to eliminating unnecessary transport and reducing cost of production.

All contracts of this kind are generally known as cartels on the continent of Europe, and also as combines in Anglo-Saxon countries.

National cartels are extremely numerous in all the industrial countries of Europe. To enumerate them all would be impossible. International combinations at present in existence and which can be classified as cartels proper are fewer in number.

The chief ones concern :

Raw steel,	Quinine,
Zinc,	Glauber salts,
Copper,	Dyestuffs,
Pig-iron,	Riveting materials,
Ferro-manganese,	Plate glass,
Ferro-silicium,	Nitrogenous fertilisers,
Rails,	Electric lamps,
Thomas basic slag,	Incandescent mantles,
Diamonds,	Paper,
Cement,	Plaited articles,
Magnesia,	Tanned leather,
White lead,	Metal buttons,
Calcium carbide,	Velvet,
Pneumatic tyres,	Maritime freights, etc.
Iodine,	

These international contractual organisations represent simply a grouping of interests, and do not generally possess individual juridical personality. They are not, as we have seen, associations or companies capable of possessing personal property

or of concluding contracts with third parties, since the members of these cartels have not as yet renounced in favour of a joint body their right to sell or purchase direct.

Such cartels, however, constitute as between their members unions or corporate groups, which can hardly operate in any permanent sense without fairly strict discipline and an internal administrative organisation to direct their activities and enforce the clauses of the contract as against members of the cartels.

In certain cases, there is an arbitral tribunal attached to the cartel for the purpose of settling disputes between members and dealing with infringements of the contractual clauses of which certain members might be guilty.

Arrangements are sometimes made for the permanent supervision of accounts. For example, a Swiss fiduciary company has been appointed to audit periodically the output and deliveries of the European Steel Cartel. The same applies to the Incandescent Lamp Cartel.

At a more advanced stage of combination, cartels approximate in form more nearly to the trust, at all events in appearance. A cartel, as noted, may end by becoming a company with a separate juridical existence (joint-stock company, limited liability company, trade syndicate), entrusted by the members of the group with a specific duty, more particularly that of centralising purchases and sales on account of all the members.

The sales and purchase agencies created by certain national cartels have quite naturally adopted the form of companies with a separate juridical personality; they can then deal directly with third parties, either for purposes of buying and re-selling or as agents acting on behalf of their members when, as in France, commission operations are less heavily taxed than transactions relating to buying and re-selling.

Nevertheless, the constitution of a separate company is not sufficient to confer on the cartel the character of a real trust, as long as such company remains a subordinate instrument and does not itself possess sufficient capital to enable it to acquire real economic independence and to make any considerable profit for itself.

In every individual case, the choice between the juridical forms admitted under the various national legislations depends as a rule on the particular purpose of the cartel and the extent to which the economic liberty of its members is restricted as regards both distance and time. The provisions governing denunciation by members who wish to withdraw after a certain time must also play a part in selecting the type of cartel.

Thus, to quote one example, in Germany before the promulgation of the 1923 cartel decree, a preference was shown for formation into a limited liability company (*Gesellschaft mit beschränkter Haftung*), more particularly as regards the higher types of cartel (sales agencies), because it was difficult for one member to withdraw without the permission of the others.

Similarly, in France, the right of withdrawal possessed by individual members varies according to whether the form of association adopted is a co-operative company with varying capital and membership, a limited liability company or a special partnership.

In point of fact, there is no juridical form peculiar to the cartel in any country, when it is not an ordinary contractual combination.

In England, for example, in addition to the trade union, other juridical forms, such as the joint-stock company and partnership (firm), have even been employed.

In France, too, recourse has been had, according to the circumstances, to the employers' trade syndicate provided for under the Law of 1884, the co-operative company with varying capital and membership, the firm, the special partnership,

the joint-stock company (*Société anonyme*), the limited liability company, the non-commercial non-profit-earning company, the non-commercial company, etc.

In Germany, where special legislation exists, the 1923 cartel decree does not give any special definition of their purpose or impose any specific juridical form.

The same applies in Norway, though a law on the control of cartels has been in force there since 1926.

Generally speaking, it may be said that when a cartel adopts the form of a separate company, the joint-stock company and limited liability company are the two types most wide-spread in all countries, the reason being that the extreme elasticity of their mechanism enables them to adapt themselves to the most varied requirements.

(b) *Juridical Forms of Trusts.*

The " *société anonyme par actions* ", the form of capital grouping commonest in all civilised countries, has made it possible to create trusts which constitute a very powerful form of an international combination.

The " *société anonyme* ", in fact, is a means whereby big financial and industrial undertakings can participate rapidly and discreetly in various joint-stock companies whose shares are bought and sold freely on the money market.

By means of successive purchases, a trust may thus come to control a branch of industry in several countries, irrespective of political or Customs frontiers. Moreover, it is just as simple to re-sell the shares as to purchase them.

The joint-stock company thus confers on the trust a mobility, elasticity and rapidity of action which no other juridical form could supply to the same extent !

Trusts are very often purely financial companies like those known in England and America as " *holding companies* ", which are not engaged in direct exploitation. In other cases, they are companies of a mixed type : they may themselves exploit one or more establishments of which they are the actual proprietors and may also hold lots of securities in other companies exploiting similar industries.

An exhaustive study of the organisation of these trusts would show that the directors succeed within a few years in getting together an enormous capital by the issue of shares bearing a fixed rate of interest or carrying with them a share in the profits or, again, by offering the public shares which carry a single vote while retaining the actual control of the trust by means of shares which carry a plural vote but represent only a very small proportion of the capital involved. The political, economic and social repercussions produced by the extraordinary development of big world trusts thus call for very special attention.

The artificial silk industry and the match industry are two well-known examples of this phenomenon of industrial interpenetration on a very large scale.

The same applies to the automobile industry, where quite recently General Motors has acquired the controlling rights in one of the principal German motor firms and endeavoured to extend its influence over rival firms in other European countries.

In the same connection might be mentioned the industrial agreements concluded between big German and French metallurgical companies, which have ignored political and Customs frontiers and exchanged shares in coal and iron-mining companies.

Again might be noted the vast international financial combines in the form of trusts which have permitted the exploitation of petroleum beds all over the world and, similarly, the combines in which Swiss, British and American banks have played an important part in the exploitation of big waterfalls in different countries, the production of electrical material, the manufacture of linoleum, etc.

The term "trust", although now current in international speech, is a generic term which often proves misleading, as it is used to designate very different things. It is employed here, in contra-distinction to cartels, to describe all forms of capital grouping which substitute for a purely contractual and usually temporary association of interests the permanent fusion of the interests of the various members belonging to it. This grouping may even imply the complete absorption of the various undertakings by means of fusion in the form of a single company or the total loss of their autonomy, even when such undertakings, after becoming mere branches, retain a separate juridical personality.

The economic evolution now proceeding thus covers a whole series of juridical gradations from a mere community of interests (*Interessengemeinschaft*) to special partnerships, holding companies, trusts properly so called, and fusion incorporating several undertakings in a single company (mergers). The German "Konzern", on the contrary, is only another generic term employed to designate a "trust".

These various types of trust (with the exception of the *Interessengemeinschaft* or community of interests, which generally assumes the juridical form of a temporary contract) are, as already shown, almost always commercial companies whose capital is divided up into ordinary shares or partners' shares.

The amount of capital necessary and the advantages of centralised management make the adoption of this juridical form practically indispensable.

II. RELATIONS BETWEEN THE STATE AND INDUSTRIAL AND COMMERCIAL COMBINES.

In all discussions concerning the supervision of cartels, the first concern is generally some provision for publicity, in the form of compulsory registration of the cartel.

In this connection, it may be noted that in most countries, whenever there is any question of forming a company with a juridical personality distinct from that of its members, the law insists on certain formalities relating to notification, administrative registration or even publicity, with the object more particularly of enlightening third parties and for purposes of taxation.

These legal formalities, however, do not imply permanent supervision over the industrial or commercial management, so that in the case of a cartel the operations do not form the object of any special supervision. In Norway only, the Law of 1926 (Articles 6 and 7) provides specifically for the registration of cartels. Further, Article 9 of this Law lays down that the creation of cartels must be officially announced in the Press.

The German cartel decree provides, it is true, that all contracts and decisions concerning cartels shall be drawn up in writing, but makes no provision for official registration with a view to their being brought to the knowledge of the public authorities.

In France, attempts in this connection have not so far been productive of results. Mention might be made, however, of the Law of March 19th, 1928, which lays down that any fusion of joint-stock companies shall be published in the *Journal Officiel* and communicated to the Ministers of Justice and Commerce, whenever the capital of the absorbing company or the new company exceeds ten million francs.

The question, moreover, is extremely complex : the purpose of State supervision is to avoid abuses on the part of private undertakings when grouped in such a way that their power may be detrimental to the general interests, and such supervision can no longer be restricted to cartels properly so called.

The problem is much vaster. This was realised from the start in the federal legislation of the United States of America. The United States have endeavoured in every domain to safeguard free competition. This was the outcome of their desire to maintain the unity of the constitutional principles on which their legislation is based, the principles in question requiring federal control which should apply both to internal trade between the individual American States and to foreign trade.

As the Congress of German Jurists in 1928 expressly noted, State supervision must also take into account that other form of economic organisation which is at present by far the most important and powerful one, namely, trusts, that is, commercial companies of the capitalist type, which are generally in the form of joint-stock companies and frequently tend to obtain a *de facto* monopoly in some specific branch.

The organisation of national or international trusts is brought about, as just noted, by the purchase of shares, whether on reciprocal or unilateral terms, and the formation of holding companies, or else by the joint creation of new companies for a specific purpose. In certain cases, the means employed is the granting of patents and the exchange of new inventions.

An immense variety of procedures is employed by the world trusts ; new forms occur every day.

Nothing, then, could reveal more clearly the difficulties which would stand in the way of the establishment of a uniform juridical system or even of international supervision with a view to denouncing or suppressing possible abuses, without paralysing the economic development of the modern world or obstructing interpenetration, which may be essential for the consolidation of world peace.

The jurists have thus been brought to follow closely the progress of these big international organisations. Their seemingly irresistible development is rapidly modifying the old-established conceptions on which the economic and political life of the most highly civilised States has hitherto been based. We are, in reality, on shifting ground, where the difficulty of grasping juridical truth is aggravated by the fact that truth is changing from day to day under the pressure of new developments.

III. FORMS OF STATE INTERVENTION.

(a) *Cartels.*

The legal forms which cartels adopt for their organisation are, as we have seen, chiefly determined by considerations of expediency and practical importance, having regard both to their internal machinery and to the laws of the country in which they are to operate. Nevertheless, these forms of organisation are only of secondary importance from the point of view of State supervision.

As regards the activity of cartels, public opinion is mainly concerned with their sales policy, if it tends to raise prices or to introduce unduly harsh terms of business.

In the second place, public authorities may direct their attention to the compulsory character of the internal organisation of cartels and also to their external organisation, *i.e.*, to the excessive power possessed by the cartel both over its own members and over third parties outside the organisation. These third parties are either competitors or consumers.

In countries where economic development is very advanced, the public authorities have usually endeavoured to suppress abuses of their power by cartels when they attempt to ruin competitors through a system of boycott or through a systematic reduction of sale prices below the cost of production. Governments have also tried

to check the abuses which are within the power of cartels with regard to consumers, *i.e.*, an excessive increase in prices, or refusal to sell to certain buyers the products for which a given cartel enjoys a *de facto* monopoly.

Different legislations agree in regarding acts of this kind as intolerable restrictions on the freedom of commerce and industry.

These legal systems, which are founded upon Roman law, have, in this connection, adopted the conception of public order. In France, Italy and Belgium, this conception has been widened, and as regards the law of contract extended to include "cause illicite" and action "contraria alle lege, al buon costume, o all ordine publico".

Anglo-American law follows the closely related conception of "unreasonable restraint of trade", and German law that of "Verstoss gegen die guten Sitten". Nevertheless, in Germany the idea of the infringement of "bonos mores" has been confined to the protection of purely private interests through an important special law — the Law of 1896-1909, on protection against unfair competition.

In Norway, the idea of "abnormal price" or "unreasonable profit" (*utilbørlige*) has the same legal basis.

As a matter of fact, the judicial suppression of the abuse of power by cartels, in the field both of criminal and of civil or commercial law, has not assumed a uniform character in all countries. Its practical influence has, moreover, been very slight.

The chief reason for this seems to be that, in any given case, the interpretation by the courts of the notion of public order and the determination of its limits is essentially a question of opinion which must be left to the decision of the judges.

The limits of public order thus vary according to the opinion of the part played by the cartel in the economic life of the country held at the moment the decision is given by each tribunal before which any particular case is brought. These limits also vary according to the importance the court attaches to the maintenance of free competition as an instrument of progress.

The view taken by common law courts often differs widely from that taken by the general public and by the officials entrusted with the supervision of industrial and commercial matters and the defence of general interests.

These divergencies in opinion, which doubtless arise in most civilised countries, have frequently resulted in striking differences between decisions by the courts and current administrative doctrine.

Further, in various national legal systems, we find prohibitions affecting certain particular forms of cartel. For instance, boycott actions are prohibited by New Zealand law. In Italy, shipping companies are forbidden to combine for the purpose of evading the application of the tariffs imposed by the Italian Government (Law of December 13th, 1919) on the transport of emigrants. In various countries, too, there are prohibitions affecting combinations between contractors and other similar provisions.

Again, Articles 419 and 420 of the French Penal Code may be mentioned. Article 420 was intended to give protection similar to that afforded by laws or decrees against illicit increase in prices enacted in exceptional circumstances in various countries during the war and during the period of monetary inflation.

Finally, the German Reichsgericht considers, in principle, that the acts of cartels are void when their effect is to secure a monopoly on the market or illicit profits through undue exploitation "of the needs of others" (Article 138 of the Civil Code), but its interpretation of this principle of the law has been very guarded. This observation does not imply any criticism. Its sole object is to explain that there is no country in which judicial suppression of the abuses of cartels has given any effective results.

In a general way, common law tribunals decide in accordance with national legal systems, which are still based essentially on legal conceptions belonging to a period prior to the development of national or international cartels. In the absence of positive legal provisions and appropriate standards of comparison, it is therefore very difficult for them to track down abuses in the industrial and commercial policy of cartels and thus to determine that "public order" has been violated, except when in certain particular cases where there are special aggravating circumstances.

Jurists have thus been led to recognise that the struggle against the abuses of cartel policy belongs, in fact, to the realm of economic policy. The importance of this realm is constantly increasing in proportion as these organisations develop. Germany and Norway have gone so far as to consider the suppression of these abuses a question of public law. Consequently, a special court of administrative law has been set up for this purpose.

A similar tendency is to be seen in the legislation of North America and even, to a partial and fragmentary extent, in that of some other countries.

It should also be added that the general policy of cartels, *i.e.*, the general evolution of sales policy, which usually finds expression in an increase in the price of the goods controlled by the cartel, hardly ever constitutes a problem relating purely and simply to the individual commercial policy of the various undertakings. On the contrary, this policy is usually governed by considerations arising from the general conditions of the national economy. It is generally influenced by the fiscal or Customs system in force and by transport rates, social legislation and the wage system.

Finally, the policy of cartels is nearly always determined by the structure of the general economy of the country, by methods of sale, both wholesale and retail, and particularly by the strength or weakness of middlemen's organisations and consumers' co-operative societies. It also depends on the level reached by technical organisation and by the organisation of the money market, to mention only the most important factors.

These different factors necessarily influence both judicial opinion on each case of abuse committed by a cartel and possible administrative sanctions.

The courts of all countries endeavour to take account of these factors and to hold the balance between the opposing interests, by making a distinction between "good and bad cartels" and between "good and bad trusts". In the United States, case-law as regards the "rule of reason" was based upon similar ideas in applying special laws against trusts.

But the suppression of the abuses that may be committed by cartels or trusts becomes still more difficult in the international sphere, particularly when those responsible do not live in the country where the abuses are committed. If, for instance, an international producers' cartel, enjoying a practical *de facto* monopoly in certain goods, unreasonably raises its sale prices in a consuming country, buyers living in that country will be faced with the greatest difficulties if they attempt to apply to the courts in the country of origin with a view to obtaining effective protection against the abuses from which they are suffering in their own country.

The same will be true even if, for instance, a cartel or an industrial trust whose factories are in the countries of production tries to prevent the setting-up of new and competing factories in the consuming countries or to ruin already existing factories by the means usually employed, namely, continuous selling below cost price, the cornering of raw materials, the enticing away of technical experts and qualified workmen, etc.

In most legal systems, there are indeed laws which would enable foreign injured parties to start civil actions on the grounds of unfair competition or even to start

a prosecution in the country of residence of those responsible for abuses of this kind. Experience of international law, however, shows that, as regards its practical efficacy, proceedings of this nature are more or less illusory.

According to Article 5 of the French Penal Code, for instance : " Any French national who, outside the territory of France, has been guilty of an act deemed an offence under French law may be prosecuted and tried in France, if the act is punishable under the laws of the country in which it was committed ".

Nevertheless, Article 5 of that Code adds that no prosecution can take place if the act has already been the subject of a judicial decision abroad and that, in the case of an offence committed abroad, " proceedings may be started only on the application of the Public Prosecutor ; they must be preceded by a charge laid by the injured party or by information officially laid with the French authorities by the authorities of the country in which the offence was committed ".

The judicial authorities of any given State are, in fact, almost solely concerned with protecting the interests of their own nationals or of persons residing within their territory.

An international cartel may be a contract directly entered into by various distinct undertakings belonging to different countries. But it may also—on a higher level—consist of a group of national cartels formed respectively by the firms in each country.

In the latter case, of which there are many examples, the group has a threefold legal structure. There is, in the first place, at the base a contractual relationship entered into within each country by the different undertakings constituting each national cartel. Next, there is an international contractual relationship between the different national cartels and, finally, there is the international legal connection between each individual in the group and the group as a whole.

In cases of this kind, the international, like the national, cartel can operate satisfactorily only if there is a single control and a disciplinary organisation whose duty it is to ensure the application of the internal regulations of the cartel and to enforce sanctions where necessary.

In contractual groups of such complexity the influence an international cartel may exert from above on the industrial and commercial policy of each national cartel, and, consequently, on the individual activities of each firm, varies with the degree of independence guaranteed both to the national cartels and to the individual members of those cartels by the clauses of the agreement.

Thus it is obvious that the operations of great international cartels and the effects of their activity on each national market raise very complex problems which cannot be solved merely by appealing to the laws at present in force in the various countries.

(b) *Trusts.*

As we have seen, trusts in most cases take the form of joint-stock companies, this type being the most suitable for the aims which they have in view. The choice of this legal form is not, however, of much importance from the point of view of the supervision which the public authorities may wish to exercise over their activities within the country where the trust has its headquarters.

But in countries in which the public authorities have the legal power to intervene in the policy as regards selling prices practised within the national territory, either by a cartel or by a trust proper, they are almost powerless in the case of acts committed outside the national territory.

When a country is obliged to buy a particular product abroad, it finds itself in an unfavourable position in dealing with an international trust which has succeeded in creating a more or less complete *de facto* monopoly in the product in question. It may be a case of raw materials, foodstuffs or finished or semi-finished articles of essential importance to the importing country. Its national industries may be seriously affected by price discriminations. The food supply of its population and even its national defence may be compromised by the policy of the foreign controllers of the products in question.

The importance of this question is still more manifest when the sole controller is a vertical international trust. It is unnecessary to quote examples, which will readily occur to everyone.

In cases of this kind, the problem of the intervention of the public authorities in the activities of international trusts and cartels takes on a peculiarly legal aspect.

States whose internal legislation permits them to intervene directly in the case of abuses committed in their own territories can no longer intervene effectively in the case of abuses committed abroad. In these circumstances, having no direct means of action, States are sometimes induced to resort either to methods connected with commercial and tariff policy or to methods coming within the sphere of their diplomatic foreign policy.

Obviously, it is only possible to settle the international problem by methods of this kind in somewhat rare cases. There should therefore be no illusion as to the effectiveness of such expedients.

In the same connection, it may be pointed out that the anti-dumping measures, which many countries have introduced into their Customs legislation, have proved to be almost inoperative in practice.

The difficulty of giving trusts an international legal status must not, however, prevent a careful study being made of the problems raised by their very rapid development. These vast organisations may succeed by the accumulation of the enormous masses of capital at their disposal in acquiring a worldwide power greatly surpassing that of the cartels.

Trusts are able to overcome their competitors much more effectively than cartels by a series of devices, such as the acquisition of blocks of shares, the refusal to deliver machine tools or raw materials and other boycotting measures, the lowering of sale prices on certain markets, etc. They can achieve their ends, while remaining strictly within the law, by availing themselves of the power conferred on any commercial or industrial organisation by a *de facto* monopoly. No modern legislation, so far as we know, forbids a private enterprise from growing beyond certain limits, any more than it directly obliges it to enter into contracts with third parties without making arbitrary discriminations. Such an obligation is only imposed on the concessionnaires of public services to whom an operating monopoly is granted. At most, an obligation of this kind may be found *in embryo* in the still not very far-reaching case-law of the German Reichsgericht in regard to the application of Articles 138 and 826 of the German Civil Code, and in the decisions of the United States courts and perhaps the English courts. The Latin conception of public policy might also lead the courts of other countries to somewhat similar conceptions, but this has not yet actually taken place.

On the other hand, the industrial power of trusts is considerably enhanced by the fact that they are able to embark upon vast programmes for the rationalisation of production and markets. The advantages they derive therefrom enable them to

lower sale prices considerably and thus to gain the victory over their less strongly organised competitors. Consumers undoubtedly benefit from the progress thus achieved as is demonstrated by the experience of all the big industrial countries.

Nevertheless, the preponderant economic position of the trusts often induces them to adopt a policy of indefinite expansion, the ultimate outcome of which may be a more or less incomplete *de facto* monopoly, judging by what is happening, for example, in the industry of incandescent lamps, petroleum, matches, artificial silk, etc. The public authorities can hardly afford to disregard these facts.

The United States alone have, since 1898, undertaken to combat by special legislation the tendencies of certain big capitalist enterprises aiming at the creation of *de facto* monopolies incompatible with freedom of trade and industry between the States constituting the Union or in relations with foreign countries. The administrative commissions and bureaux, like the Industrial Commission, the Bureau of Corporations and the Federal Trade Commission, which have been successively set up in the United States, have hardly been more than information and investigation organisations. The law courts responsible for the interpretation and application of the anti-trust laws have always remained invested with supreme authority to deal with industrial or commercial organisations created in restraint of trade, *i.e.*, contrary to the freedom of trade and industry.

It should, however, be pointed out that in the United States the administrative control thus instituted can only be exercised by means of injunctions, which those concerned are only obliged to obey if the law courts uphold them.

* * *

Lastly, we may point out that a certain number of States wishing to discover the abuses committed by cartels or trusts have added administrative supervision to the judicial measures usually employed.

If we make a general survey of the solutions adopted in the different States, we may divide them into two groups on the basis of the information obtained.

In a limited number of States there exists a particular legislation in virtue of which a special control, under public law, is instituted over industrial or commercial combinations, the extent of this control being such that the ordinary law only remains applicable in principle to actions for the establishment of individual rights of a purely civil nature arising out of the agreements in question.

In contrast to these countries there is a second group in which, in the absence of special regulations, the whole question of industrial or commercial combinations is governed by ordinary law, and therefore comes within the jurisdiction of the ordinary courts, but in which there also exist a number of special provisions of administrative or public law applicable either to certain special categories of combinations—such as cartels of contractors, for example—or to specific effects of industrial or commercial combinations or, lastly, to certain abuses of the policy of combinations, such as excessive increases in the prices of special categories of goods, etc.

From the information available it is not possible to determine with absolute accuracy for each country how far these special regulations in group 2 withdraw combinations from the sphere of ordinary law.

Subject to these observations, we should thus get the following classification :

Group 1.—Countries which have definitely established a special regulation.

The United States of America, where the Federal Trade Commission, however, is obliged to apply to the ordinary courts for the exercise of its administrative control.

Germany.—Germany has put into force the law on cartels regarding which detailed explanations are given in the Annex.

Norway.—Norway has put into force the special law regarding which detailed explanations are also given in the Annex.

In this group should also be included *Canada, Australia, the Argentine, New Zealand* and the *Union of South Africa*, in which industrial commercial combinations are subject to restrictions of principle of comparatively wide extent, which are based on public or administrative law. Lastly, mention should also be made of *Peru*, since this country, according to the information at our disposal, has completely prohibited combinations of this kind.

Group 2.

The second group would consist of the following countries : *Belgium, Denmark* (where special regulations were, however, introduced in 1929 to prohibit the compulsion exercised by combinations, Law of April 6th, No. 70), *Great Britain, France, Greece, Netherlands, Italy* (which has, however, instituted very extensive State control over the whole economic system), *Poland, Roumania, Sweden, Switzerland, Spain, Czechoslovakia, Turkey, Brazil* and *Japan*. In Poland and Czechoslovakia Bills providing for the special regulation of industrial or commercial combinations are at present under discussion.

IV. CONCLUSIONS.

We desire, in conclusion, to submit a few general observations.

I. As jurists, our duty, as we conceive it, has been to set out the juridical status in the chief countries of those vast industrial or commercial combinations generally known as trusts, cartels, *ententes*, corners, etc.

We have been keenly conscious of the magnitude of this undertaking, as well as of our own limitations. We hope that our work will be judged with indulgence and that it will only be regarded as a preliminary study which may prove to be a helpful introduction to a more complete examination of the subject.

II. An investigation capable of leading to proposals concerning the economic organisation of the modern world is beset with difficulties and the subject is of disconcerting complexity.

This post-war period has seen an unprecedented development in communications. At the same time, we are witnessing the creation of industrial, commercial or financial organisations on a colossal scale, utilising an enormous capital and extending their activities over the whole world. Further, for some years past, there has been an almost unlimited extension of large-scale credit operations.

These economic transformations have been so rapid and profound that they are shaking old conceptions to their very foundations. The legal theories under which we have been living are being put to the test of new facts of wide significance and will undoubtedly have to be revised.

Broadly speaking, the relation of Government to business still awaits precise definition. Events in the last few years have run ahead of juridical, economic and political thought. Close observers are only now beginning to grasp the tremendous import of what is going on around them in the industrial and commercial spheres, and to gain some inkling of the consequences which will ensue.

Occasionally platitudes such as these need to be re-stated. The difficulty of attempting to isolate the legal aspect of the situation and deal with it in any confident and definitive fashion must be apparent.

III. This report throws into clear relief an issue of the utmost significance. How far can the modern conditions of trade and industry be fitted into, or reconciled with, the open and free competitive system under which business has for generations been carried on? The solution of this problem is not yet apparent.

In studying this problem, we have been deeply impressed by the fact that we stand face to face with two fundamentally conflicting points of view. The American conception, and perhaps to a lesser extent the British, is an uncompromising maintenance of the principle of competition in the interest of the consumer and of the small producer and trader. On the other hand, in the interest of what is styled "national economy" the competitive system has been seriously compromised and invaded on the continent of Europe by the cartel movement, supported in varying degrees by Government co-operation.

It seems, however, to be recognised in Germany, and in other countries which have followed her lead, that industrial organisations such as cartels cannot be permitted to go uncontrolled. This means that the Governments of those countries are being drawn more and more into the supervisory function, involving regulation of prices, output, etc. Germany, Norway and also Canada have already organised supervision of this kind.

The United States have declined to follow this course. They have enacted stringent legislation to protect the consumer and the small producer so as to ensure them the benefits of the competitive system within the territory of the Union. The courts have been engaged for more than thirty years in construing and applying these laws.

The United States Government has consistently refused to assume any such burden of supervision as has been taken up in Germany. The creation of the administrative commissions referred to above does not really constitute any departure from the American system. The public authorities of the United States have confined themselves to energetically applying the anti-trust laws and the principles of common law with regard to the essential freedom of trade and industry.

Great Britain has followed a similar line of action. The difference between the attitude of the United States and that of England is that thus far England has evidently not found it necessary to legislate in the same way, but has rested upon the common law doctrine which really constitutes the basis of the American policy. In these circumstances it will be seen that the two policies (that of the United States and Great Britain on the one hand, and that of continental Europe on the other) are divergent, if not utterly opposed.

IV. Plainly, no formula of reconciliation — if one can be said to exist at all — can be worked out by jurists alone.

It may well be that the solution must in the end be practical rather than theoretical.

It is easy to understand that, in certain industrial countries with a very dense population, the individualist system of free and unlimited competition presented greater disadvantages than in the British Empire and in the countries of the New World. This might suffice to explain the differences between the two legal systems.

If we consider, in addition, the question of the regulation or adjustment of the legal elements relating to the problem of international industrial combinations, the difficulties appear still greater.

Private international law has only recently dealt with these problems, and the conclusion has been reached that the question is one of such difficulty that certain of the problems raised appear almost insoluble.

It is clear that existing private international law is insufficiently developed, both as regards the material legal effects of international industrial combinations and as regards the rules of procedure and execution.

The problem of an international intervention of public law in regard to international industrial combinations—for example, in the form of an international jurisdiction—is outside the scope of this preliminary study.

As regards the legal aspect of this problem, we shall confine ourselves to drawing attention to the great difficulties which result from the diversity of national legislation and the differences in the application of the general rules which are of importance in this connection, whether in the sphere of ordinary law or that of special legislation. The same diversity appears in the case of administrative regulations, where such exist.

In fact, it is not the different forms taken by these international industrial combinations, or the difficulties of classifying them according to the different national types, which raise the hardest questions to solve in civil and public law.

The League of Nations and bodies such as the International Chamber of Commerce are well placed to pursue the study of all these questions to the best advantage of the great interests at stake. It would perhaps be desirable to entrust this study to a committee comprising both economic and legal experts.

V. ANNEX : SYNOPSIS OF LEGISLATION REGARDING CARTELS AND TRUSTS.

In the synopsis given below, an attempt has been made to set forth in summary form the various systems employed in the principal countries to prevent or punish abuses which may be committed by the heads of trusts or cartels.

I. Countries which have established Special Regulations for Cartels and Trusts.

Germany.

Regulations of 1923 on cartels.

Administrative supervision exercised by the Ministry of Commerce.

Cartel Tribunal, which punishes offences under the Civil and Criminal Codes.

Norway.

Law of August 6th, 1920, compelling trusts, cartels, combinations, etc., to supply information.

Law of November 30th, 1921, providing for the compulsory registration of large undertakings and of all commercial or industrial combinations restricting competition.

Law of March 12th, 1926, regulating cartels, trusts, combinations, etc., and providing for their administrative supervision by a Supervisory Bureau and a Supervisory Board.

United States of America.

Various laws ensuring freedom of competition and the normal operation of supply and demand by making offences punishable by the courts (Sherman Act of 1890 ;

Wilson Tariff Act, 1893-1913 ; Clayton Act of 1914 ; Webb Pomerene Export Trade Act of 1918 ; Capper Volstead Act of 1923).

Administrative supervision by the Federal Trade Board set up in 1914 and imposition of penalties by the law courts.

Argentine Republic.

General Law of August 23rd, 1923, rendering abuses by trusts punishable.

Special laws passed on the same date regulating the sale of live-stock and the meat trade.

Administrative supervision of the enforcement of these laws, carried out by the Bureau of Trade and Industry.

Austria.

Law of 1870 on associations, declaring agreements causing excessive rises in prices to be without legal effect.

No administrative supervision.

Hungary.

Law of May 15th, 1924, on unfair competition.

Australia.

Customs Protection Act of 1921-22 relating to cartels and trusts.

Canada.

Punishment by the courts of illicit combinations concluded with a view to interfering with freedom of trade and industry.

Combines Investigation Act of 1923.

New Zealand.

Board of Trade Act of 1919, placing the supervision of monopolised industries in the hands of the Ministry of Commerce and Industries.

II. *Countries in which Cartels and Trusts are subject to Ordinary Law.*

Great Britain.

Cancellation by the courts of contracts which are in restraint of trade. Compensation awarded to victims of abuses.

No penal measures imposed.

No administrative supervision.

Belgium.

Cancellation by the courts of agreements contrary to public policy.

Compensation awarded to victims of acts of unfair competition.

Punishment of the offence of falsifying prices in the national market.

No administrative supervision.

France.

Cancellation by the courts of agreements contrary to public policy.

Compensation awarded to victims of acts of unfair competition.

Punishment of the offence of falsifying prices.

Public announcement of amalgamations of companies, where the capital involved exceeds 10 million francs.

No administrative supervision (except of international agreements).

Switzerland.

Cancellation by the courts of agreements having an immoral object (wrongful exploitation of the needs of consumers, excessive raising of prices, unwarranted interference with the economic freedom of the members of cartels).

No administrative supervision.

Spain.

Punishment of the offence of falsifying prices.

General administrative regulation of industrial production (Decree of November 4th, 1926).

Italy.

Cancellation by the courts of illicit agreements.

Punishment of the offence of falsifying prices and of interference with the freedom of trade and industry by force or threats.

Administrative supervision of trade.

Netherlands.

Punishment of fraudulent acts arising out of illicit agreements.

Poland.

Pre-war German, Austrian and Russian laws still in force.

New Law of August 2nd, 1926, on unfair competition.

Roumania.

Law of 1923 for the punishment of illicit speculation.

B. LEGAL ASPECTS OF INDUSTRIAL AGREEMENTS IN THE PRINCIPAL COUNTRIES.

AUSTRIA

REVIEW SUBMITTED BY DR. TSCHIERSCHKY.

[*Translation.*]

The juridical treatment of cartels is based on the Law regarding Combination of October 7th, 1870 (*R.G.Bl.*, No. 43). As is obvious from the date of the law and from its text it was not originally intended to apply to cartels, but it has, through the interpretation given to it by the majority of jurists, and especially as a result of rulings of the Supreme Court, attained considerable importance as regards the juridical treatment of cartels.

The law is directed, in the first place (§ 2 and 3), against particular associations and agreements between employers and workmen, which it declares to be legally inoperative, and further aims at preventing the creation, extension and operation of such social organisations by imposing penalties.

In addition, § 4 of this Law expressly declares to be legally inoperative any "agreements between industrialists or merchants concluded for the purpose of raising the prices of commodities to the prejudice of the public". As most of the cartels aim either directly or indirectly at influencing prices (both the text of the law and the decisions of the courts relate to this aim and not alone to the nature and scope of cartel operations), and as the exercise of such influence upon prices *may* be prejudicial to the public, this old law still serves as the basis for the rulings of the courts in the matters of cartels.

Contrary to the opinion widely held in legal circles and found in the works of publicists, more especially outside Austria, this provision does not actually prohibit cartel agreements or declare them null and void. It merely declares them to be juridically indifferent. That is to say, it affirms that they possess the character of a natural obligation and do not create any rights. At all events, it is never certain if an action can be brought in respect of such agreements, seeing that the courts still enjoy considerable latitude in their interpretation of them.

Nevertheless, this juridical basis only exists, according to the terms of § 4, in the case of sales cartels, as these alone can exercise an influence on prices which is prejudicial to the public. It cannot apply to cartels which are merely engaged in making purchases, nor, as a general rule, to pure "Konditionen-Kartelle", which only regulate conditions of delivery and payment but not prices.

Independently of the Law regarding Combination, all cartels may be declared to be null and void under the Civil Code if their activities are contrary to morality or public policy. § 3 therefore seems, as Piek points out in his "Praktische Fragen des Oster. Kartellrechts", 1913, page 30, merely to play the part of a *lex specialis* in relation to the Austrian Civil Code (§ 26, 878, 879 and 1174).

The only cartels expressly prohibited are cartels for the submission of tenders. This prohibition is found in an Imperial Decree of 1838, the terms of which, however, are restricted to public auction sales by administrative authorities. Nevertheless,

as interpreted by the majority of jurists, it can also apply by analogy to *all invitations for tenders*—at least by public bodies. Agreements of this kind are absolutely null and void.

✱ The official control of the constitution of associations and companies (Combination Law, § 6, Imperial Patent of 1852, and in particular § 14 taken in conjunction with the 1899 Regulations relating to Shares) has not been applied to cartels. According to the prevailing opinion, the real duty of the judicial authority responsible for registration is to see that the prescribed formalities have been complied with, but it should be expressly noted that the opposite opinion is also held (see conclusion of No. II of the Decisions).

The Law of March 9th, 1921, relating to the illicit raising of prices, which provides penalties for agreements designed to secure undue profits on necessities, services and brokerage, is really of the nature of a special inflation law against profiteering, and has—recently at any rate—not been applied to cartels. Nevertheless, it is by no means inconceivable that these provisions might be directed against cartels.

When discussing the legal position of cartels in Austria under the Law regarding Combination, publicists have not been far wrong in holding that cartels have been given the character of “friendly agreements”.

The cartels are therefore endeavouring to secure by special means recognition both of the legal obligations between their members and of agreements concluded with third parties, and they have with this object inserted as far as possible in their agreements and contracts a clause providing for arbitration in the event of disputes. Contrary to the position in countries in which cartels are recognised and in which preference is consequently given to arbitration mainly on purely practical and procedural grounds, arbitration in Austria is obviously intended to eliminate those dangers resulting from the legal position of cartels which may arise in connection with actions brought in the ordinary courts. Nevertheless, it is often difficult for cartels to employ this method, although, in principle, cartel agreements must be guaranteed by arbitration procedure.

Article XXIII of the Introductory Law to the Civil Procedure Code declares null and void any pre-arranged appeal to the *Stock Exchange Arbitral Court* when a cartel has imposed upon its members the condition that they shall only sell their goods on the condition that buyers undertake to abide by the decision of the arbitral court in the event of a dispute and the buyer has been compelled by economic pressure to submit to this condition. However, the plea that the organisation in question is a cartel can only be set up against it in cases where there has been a previous agreement to recognise the competence of this arbitral tribunal. It cannot be used against legal declared Stock Exchange transactions (Stock Exchange Law of 1875). Further, in the opinion of jurists, the right to plead that the association is a cartel may legally be waived, in virtue of Article XXX of the Introductory Law to the Executory Regulations, by having recourse to arbitration.

The legal position with regard to arbitration is rendered more unfavourable to cartels by § 595 of the Civil Procedure Code, which declares an arbitral award to be inoperative “when it is at variance with strict legal provisions” (point 6) or (point 7) “when it orders a party to perform an act which is not allowed by law”. In view of the fact that, under § 4 of the Law regarding Combination, the cartel agreement itself is declared to be legally inoperative, an arbitral award based on that agreement may also be regarded as infringing a strict legal provision, inasmuch as it is intended in spite of this fact to produce a juridical effect.

The mostly very uncertain juridical basis of arbitral procedure demonstrated above is also responsible for the difficulties experienced by the cartels in protecting

themselves by insisting on financial securities — that is to say, by imposing in the case of non-fulfilment of the stipulations of an agreement fines payable out of the securities given, which can usually only be realised in virtue of a judicial decision. In the nature of the case, this decision will almost always take the form of an arbitral award. As regards cartels which are declared to be null and void on the ground of illicit profits or on other public grounds the payment of such fines cannot be legally enforced ; the defendant can always plead that the association in question is a cartel. Indeed, generally speaking, the cartels are not exactly in a favourable position for recovering these fines. § 877 of the Austrian Civil Code gives a very wide definition of “ *condictio indebiti* ” based on “ absence of assent ” ; that is to say, where there is constraint or error, and § 1431 gives the following special definition applying principally to cartels security :

“ When, as a result of an error—even a juridical error—a person has profited by a thing or act which he was not entitled to require from the other party, he may generally be asked to make restitution ”.

Finally, the last sentence of § 1447 of the Austrian Civil Code recognises a general right to demand restitution on the ground of unjustifiable enrichment.

Consequently, a member of a cartel against whom proceedings are taken for a breach of the stipulations of the cartel can set up a great variety of pleas. At the same time, it is doubtful whether pleas based on the prohibition to demand restitution contained in § 1174 and 1432 of the Civil Code and the absolute prohibition to demand restitution can be upheld in opposition to the foregoing arguments. § 1432 precludes the bringing of actions for restitution “ when a person makes a payment, knowing that he does not owe the sum in question ”. In view of the uncertainty existing with regard to the legal validity of the cartel agreement itself, the member applying for restitution, who is accordingly bound to produce proof, can probably make out a case and thus claim the protection of § 1431. As, moreover, § 1147 only prohibits a claim for restitution of payments made “ knowingly ”—that is to say, when there has been no error as regards the invalidity of the legal transaction in respect of which the payment was made—the protection thus afforded to the cartels would, as appears from the foregoing considerations, also seem to be highly problematical. The application of § 1147 is, it is true, limited to *effecting* an impossible or illicit action, so that, taken literally, this paragraph could only be invoked in the case of security being given to promote the *establishment* of a cartel. Nevertheless, in the case of cartels, the usual practice is that security of the kind referred to must be deposited when the agreement is concluded and the acquisition of membership is made dependent thereon, so that the argument that the depositing of the security has the effect of constituting the cartel cannot be rejected off-hand. By analogy, all these difficulties may arise not only between the cartel and one of its members, but also between the cartel and third parties.

It appears, then, from the juridical position set out above, that the exercise of pressure for purposes of organisation, both against the members of the cartel and against third parties (outside undertakings and purchasers), is very restricted. In this case, appeal may also be made to the provisions of the civil law relating to acts against public morals, and in particular to § 879 of the Austrian Civil Code already mentioned.

The fact that, in spite of this unfavourable, or at least problematic, juridical position, the cartels have nevertheless acquired relatively considerable importance in Austria is due, in the first place, to the highly developed discipline evolved in the industrial circles in question under economic pressure, and also to the prudent policy

of the cartels, which has been such as to prevent serious disputes arising which would call for judicial decisions. Again, Austria is, so far as I have been able to ascertain, the only country in which there is a special defence organisation against cartels; this organisation, however, seems to be composed chiefly of small industrialists and merchants. It issues a publication of its own.

The rulings of the Supreme Court are naturally based on the special circumstances of the individual cases. A list of the most important decisions (fifteen in number) has been compiled by the Secretary-General of the Central Association of Austrian Industry, Dr. G. Weiss-Wellenstein, in his report for the Thirty-fifth Congress of German Jurists at Salzburg in 1928¹.

The following important general conclusions which may be drawn from these judgments will help to explain the legal position as previously indicated :

I. § 4 of the Law regarding Combination also applies to manufacturers and industrialists. The expression "Gewerbsleute" should be given to this extended meaning (Decision of January 20th 1898).

II. § 4 of the Law regarding Combination and § 879 of the Austrian Civil Code are strict legal provisions which must therefore be applied by the judicial authorities of their own proper motion. Accordingly the judicial authority responsible for registration must examine the admissibility of the demand for registration from this point of view (Decision of September 12th, 1906).

III. The Law regarding Combination does not distinguish between articles of absolute necessity and other commodities, but includes all articles of consumption (Decision of April 6th, 1899).

IV. From the point of view of juridical appreciation, the larger or smaller number of parties is immaterial, in view of the fact that a small number may exercise a considerable influence upon the market (Decision of April 6th 1899). Similarly, the scope of operation and the duration of the activities of the cartel are also immaterial, and, further, all accessory conditions connected with the cartel agreement are invalidated if the main agreement is declared to be void (Decision of May 7th, 1912). The intention to increase prices need not be expressly stated in the agreement, but it is sufficient if this intention can be deduced from the text (Decision of May 7th, 1912). The Austrian participants in a cartel agreement concluded abroad come under § 4 of the Law regarding Combination, as this is a strict legal provision which may not be infringed by any agreement between the parties (Decision of September 26th, 1925).

V. It is immaterial whether the cartel has actually had the effect of increasing prices as far as the public is concerned; it is enough if it has placed the consumer in a less favourable position (Decisions of January 20th, 1898, April 6th, 1899, and September 4th, 1914).

VI. Cartels are not legally inoperative where their object is to protect the legitimate economic interests of the producers against middlemen or against unwarranted pressure to keep prices down (Decision of February 4th, 1903). Even if there has been an undoubted increase, it is not allowable to set up the plea that the association is a cartel (Decision of March 28th, 1916), provided the cartel is intended

¹ Proceedings of the Thirty-fifth Congress of German Jurists, Vol. 1, p. 191 *et seq.*, Berlin 1928. Walter de Gruyter & Co.

to prevent the existence of the branch of industry in question from being jeopardised. A cartel constituted by breweries for the protection of their customers is not regarded as contrary to public morality, in so far as its aim is to combat unfair competition and is consequently not directed against the interests of the community (Decision of March 9th, 1909). On the other hand, the Appeal Court of Innsbruck, in its Decision of November 23rd, 1927 (1926-27, printed in the *Kartell-Rundschau*, No. 5, 1929, pages 293 and following), declared to be contrary to public morality (as infringing § 1 of the Law on Unfair Competition) a contract of exclusion between the brewers and the bottle-fillers' corporation, whereby the formation of any other bottle-filling concerns was to be prevented by the breweries by means of a refusal to effect deliveries ; the court declared the reason given by the parties concerned, namely, that their object had been to remedy a crisis brought about by over-crowding of the industry, was incompatible with commercial liberty.

VII. The rationing of production constitutes a cartel, in so far as it is a means of artificially increasing prices (Decision of September 9th, 1914).

VIII. A contract relating to the closing of a factory on the strength of an agreement with the competitors constitutes a restriction of competition and is consequently regarded as prejudicial to the interests of the community (Decision of March 20th, 1923).

BELGIUM.

REVIEW SUBMITTED BY M. HENRI DECUGIS.

[*Translation.*]

The general course followed in the economic evolution of Belgium is practically parallel with that of France and Germany. Belgian legal conceptions of industrial and commercial agreements are derived from French law, which on many points is identical with or similar to Belgian law.

The French Criminal Code was in force in Belgium until 1867, when it was superseded by the Belgian Criminal Code. Further, Article 311 of the latter Code was amended by the Law of July 18th, 1924. The new text, which is very similar to Article 419 of the French Criminal Code, reads as follows :

“ The following shall be liable to imprisonment for a period of not less than 15 days and not exceeding 5 years and a fine of not less than 300 francs and not exceeding 5,000 francs :

“ Persons who, by fraudulent means, have effected or attempted to maintain a rise or fall in the prices of articles of food or goods or public bonds or stocks ; persons who, even though without the use of fraudulent means, have wilfully effected, maintained or attempted to maintain in the home market an abnormal rise or fall in the price of articles of food or goods or public bonds or stocks, whether by prohibitions or agreements designed to fix minimum or maximum selling-prices or by restrictions upon the production or free movement of products.

“ The Court may order the sentence or extracts therefrom to be published in one or more newspapers appearing in the district in question, at the cost of the person upon whom sentence has been passed.”

As regards international agreements in particular, it is worthy of note that Article 311 of the Belgian Criminal Code is applicable only if prices have been falsified in the *home market*. Consequently, this clause would not allow a penal sentence to be passed in respect of an unlawful agreement concluded in Belgium by Belgian producers with the object of raising prices in a foreign market.

In this case, civil penalties alone would be applicable. The injured parties could only secure the annulment of the agreement by appealing to Article 1131 of the Civil Code (the former Code Napoléon), still in force in Belgium, which article invalidates any agreement based on unlawful grounds or contrary to public policy.

Lastly, Article 1382 of the same Code allows private individuals to obtain damages, just as they can in France, if they are injured by agreements constituting acts of unfair competition prejudicial to freedom of trade or industry.

In brief, the Belgian system is similar to the French. It is purely punitive, and the legislation on which it is based is almost identical. Trusts and cartels may be formed freely within the scope of ordinary law, and may operate without any interference on the part of the authorities, provided only that they do not falsify or attempt to falsify prices abnormally in the *home market* by any wilful act, even though without

the use of fraudulent means, whether by prohibitions or agreements designed to fix minimum or maximum sale prices or by restrictions upon production or the free movement of products.

It would therefore be a mistake to regard the Belgian Law of July 18th, 1924, as being directed against agreements. When it was discussed in the Senate, M. Tschoffen, Minister of Industry and Labour, was careful to re-assure manufacturers in the following words :

“ Agreements designed not to affect price rates but to regulate production are not liable to be penalised.

“ Suppose that manufacturers have for a time a large surplus of goods ; stocks have accumulated ; there is no further means of finding a market ; these manufacturers agree to restrict production—which has become useless—within reasonable limits, while not affecting price rates in any abnormal way. In such circumstances they will not come under the scope of the law. Why ? Because their agreement in no way tends to exercise unlawful or improper pressure on price rates.”

Thus Belgian law, too, recognises the distinction accepted to-day in almost every country between “ good ” and “ bad ” trusts. Trusts or cartels which do not aim at producing *abnormal* rises or falls in prices are therefore quite lawful in Belgium.

As M. Theunis observed in his 1926 report to the League of Nations, this article would only be enforced if there was a wrongful purpose, and such a purpose does not exist if the agreement between producers is designed simply to limit production in order to prevent it from exceeding the consumers' capacity for absorption. The interest of the consumer is not really harmed by the rise in prices, since, even supposing that the absence of an agreement between the producers enabled him to benefit temporarily by a slump in prices due to overproduction, the situation would soon be changed, according to M. Theunis, because the industry would be ruined.

Such is the liberal interpretation given by Belgian courts to Article 311 of the Criminal Code. It is not unfavourable to agreements—quite the contrary, indeed. The public authorities and public opinion in general consider that the courts may intervene only to punish abuses when they arise.

The freedom granted to workers' organisations is also accorded to combinations between manufacturers and traders when such combinations are intended simply to regularise and promote production and to prevent a fall in prices with, unemployment and ruin as the result of unbridled competition.

The Government, moreover, views with favour the tendency towards concentration in industry and trade if designed in the general interest, in order to enable Belgian manufacturers to meet foreign competition.

On the other hand, the Customs Law of May 8th, 1924 (Article 5), protects Belgian manufacturers against *dumping* on the part of their competitors in the home market : it authorises “ the Government, on the decision of the Cabinet, to impose a countervailing duty on imported goods for which a direct or indirect export subsidy is granted in their country of provenance or origin ”.

These countervailing duties thus imposed by decision of the Cabinet alone must afterwards be ratified by Parliament.

GREAT BRITAIN.

REVIEW SUBMITTED BY M. HENRI DECUGIS.

[*Translation.*]

No special provisions exist in English law for the regulation of industrial or commercial combinations. When they affect freedom of trade, however, they come within the scope of the common law, which annuls as being contrary to public policy any contract made in restraint of trade, *i.e.*, any contract tending to create a virtual monopoly by the abolition of free competition in trade or industry.

An illegal agreement between producers or traders to bring about an excessive or unreasonable rise or fall in prices is not therefore regarded as an offence. It only involves civil penalties in the form of damages and the annulment of the agreement. If such a contract is harmful to the public interest, no English court will order its enforcement or impose a penalty for a breach of it. The courts do not recognise such contracts as a ground for judicial proceedings. The practical effect of this application of common law is that cartels cannot have recourse to the courts to compel recalcitrant members to observe stipulations illegally restricting their commercial freedom.

As regards relations between cartels and third parties, the courts regard as illegal any agreement concluded between two or more persons to injure a third party in the exercise of his trade or industry.

On the other hand, an agreement is lawful if its real object is not to harm a third party but only to promote the business or defend the interests of its members. It cannot, then, be penalised, even if it is prejudicial to other parties, unless the means employed are illegal in themselves, *e.g.*, violence, threats of violence or fraud.

Further, the courts consider null any agreement depriving a person unreasonably or unjustly of the right to engage in a lawful trade or occupation as and where he thinks fit. A contract is valid, however, if its sole object is to protect the interests of the person framing the contract without actually harming the public interest, and provided that the restrictions placed on the freedom of the party bound by the contract do not exceed what the person framing it is reasonably entitled to demand for his personal protection.

Further, the restrictions must be worded in sufficiently precise terms and must not be too general, and they must also be based on valid grounds. If, however, the restrictive clauses infringe only part of these rules, and if they can be applied in part, the courts will order the application of the valid part. For example, contracts may be cited restricting the freedom of the vendor of a business or that of partners, employees, etc. There are also clauses regulating prices and conditions of re-sale or use to which the purchaser of the goods is obliged to conform. The limit of validity in restrictions naturally varies according to the circumstances of each case.

Decisions of courts on the validity of clauses of this kind are further liable to vary with the development of means of communication and with the constant changes that are taking place in trade. An English judge has no right to adopt rigid or stereotyped rules fixing once and for all the line of demarcation between stipulations that are valid and stipulations that are not.

The English courts have thus the power, owing to the nature of the common law, to adapt legal practice to the fresh needs which are arising every day.

In 1919, a temporary law, entitled the Profiteering Act, 1919, imposed fines or imprisonment for the unlawful raising of prices.

By this Act, the Board of Trade, acting through a central committee for wholesale trade and industry and through local committees for retail trade, exercised surveillance over illicit speculation. Proceedings were taken in a few cases and sentences were imposed, but for acts which were not connected with industrial or commercial agreements or with the exercise of virtual monopolies.

By Article 3 of this Act, the Board of Trade was empowered to carry out enquiries into the nature and operation of trusts, cartels, amalgamations, organisations and combines of all kinds tending to create virtual monopolies or to restrict freedom of trade. The numerous enquiries instituted, however, did not lead to any practical result.

Moreover, the Profiteering Act expired in 1921, and there is therefore no occasion to consider this provisional measure further.

In February 1918, however, a Royal Commission, called the "Committee on Trusts", was appointed to study the extension of trade organisations and combinations and to suggest what action, if any, might be necessary to safeguard the public interest.

This Committee submitted its report in 1919, after an extremely thorough and exhaustive examination of the working of organisations and trusts of all kinds, and of the advantages and drawbacks of industrial and commercial concentration.

The report finds that there is in every branch of British industry an increasing tendency to the formation of trade associations and combinations having for their purpose the restriction of competition and the control of prices.

It enumerates 93 industrial associations in every branch of production with which the Ministry of Munitions dealt during the war.

The Committee considered that, as a whole, the activities of these groups were really useful and beneficial, but it called attention to the dangers of abuse arising out of a system which has the effect of controlling prices and creating virtual monopolies. It recommended the appointment of commissions of enquiry having powers of investigation into the operation of trusts, combines and monopolies similar to those granted to the commissions created in New Zealand (Monopoly Prevention Act of 1908), Canada (Combines Investigation Act of 1910), Australia (Inter-State Commission Act of 1912) and the United States of America (Federal Trade Commission Act of 1914).

The Committee considered it desirable that these judicial enquiries should be entrusted to a special tribunal with a person of legal qualifications as chairman, assisted by a number of persons selected by him from a panel appointed by the Board of Trade after considering the nominations made by the principal trade organisations, including the co-operative movement and trade unions.

The Committee's suggestions have not yet been acted upon.

The industrial difficulties which gave rise to the unemployment now so prevalent in Great Britain have had the effect of furthering the movement towards concentration which has been so marked in recent years. Public opinion is in favour of such concentration, and recent legislation has encouraged it. Thus the Mining Industry Act of 1926 gave a special judicial tribunal (Railway and Canal Commission) the right to exercise surveillance over the amalgamation or absorption of coal-mining undertakings.

Recently, Parliament has removed a number of difficulties preventing the rationalisation and concentration of industry in general. Certain amalgamations

of industrial and commercial firms were exempted from fiscal duties under the budget of 1927 ; and the Companies Law of 1929 contains a number of provisions to facilitate the fusion and amalgamation of companies.

English law on industrial agreements is thus at present in process of evolution. Its current tendency is not, in principle, hostile to such agreements, except perhaps in so far as it establishes a permanent supervision of a semi-judicial and semi-administrative character similar to that recommended in 1919 by the Committee on Trusts.

Legal experts indeed have for some years past noted that English courts are adopting a more sympathetic attitude towards industrial agreements. The view is now being taken that unrestricted competition is not invariably in the general interest, and is sometimes even harmful to it. In a number of cases the courts have considered as permissible trade boycotting and other methods of the same kind which associations of producers or traders employ to defend themselves against external competition. On this point, it would seem that the evolution of law in other European countries has to a certain extent influenced British legal practice.

There is at present no law penalising international dumping. The British Customs tariff does not allow any discrimination between goods coming from different foreign countries. There are no preferential duties other than those in favour of countries belonging to the British Empire.

CZECHOSLOVAKIA.

REVIEW SUBMITTED BY DR. TSCHIERSCHKY.

[*Translation.*]

In order to appreciate the juridical position in this country, which came into being as a result of the world war, it should be noted that Czechoslovakia is divided for juridical purposes into two parts :

- (a) Bohemia, Moravia and Silesia ;
- (b) Sub-Carpathian Russia and Slovakia.

In the territories coming under (a) Austrian law was in force and in those under (b) Hungarian. The Law of 1918 provided for the continued operation of the laws of the States (*Länder*) and of the Empire hitherto in force, the former German Kreis of Hultschin being attached to the territory subject to Austrian law.

There is no special legislation governing the juridical position of cartels. The data given for Austria and Hungary still apply to a large extent to Czechoslovakia at the present time ; the most recent proposals for a special cartel Bill for the whole country are attached, with brief observations.

Provision is made for a certain measure of public control of cartels by various special laws applicable to the whole country, viz. : Decrees No. 101 of February 26th, 1919, and No. 337 of April 15th, 1920, § 4, under which it is possible to create special associations of concerns belonging to the same branch of industry for the purpose of fixing prices with the co-operation of the central authorities. According to HEXNER'S " Principles of Czechoslovak Cartel Law ", Berlin, 1929, also published in Czech at Prague, 1929, p. 24, there are no such associations in existence at the present time, but they provide the Administration with the possibility of intervening in matters relating to cartels. A Decree of September 23rd, 1919, enables the Ministry of Public Works to introduce a system of compulsory administration in business concerns under its supervision should they act in a manner prejudicial to the interests of the community. In this way, a certain influence can also be exercised on the formation of cartels—for instance, in the mining industry. Finally, § 113 of the Constitution might be enforced in a suitable case ; this paragraph provides for the dissolution of associations whose activities threaten public safety and public order. Further, apart from this general power to dissolve associations, which applies to the whole country, the Decree of June 27th, 1920, gives the Government the right to supervise certain trading companies at the time of their registration. Limited liability companies and joint-stock companies would be mainly affected here. The decree was designed to deal with exceptional circumstances. The Government has so far permitted the constitution of cartels of this kind.

A Law of March 28th, 1928, which is also of a general character, declares null and void any cartel agreements relating to *building materials* which fix unduly high prices. The Law against Unfair Competition of June 15th, 1927, can, on the strength of its general clause, be applied both to the relations between cartels and their members and to the struggle carried on between cartels and outsiders (price discrimination, contracts of exclusion, boycotting). A further restriction on the exercise of undue pressure for the purpose of organisation is provided by the Penal

Law of August 12th, 1921, against constraint in business as well as in private relations. An Emergency (Inflation) Decree, No. 516 of September 3rd, 1920, imposes a general obligation to give information and declare stocks and introduces a system of licences for buying and trading. The system, however, only applies to necessities. This decree gives the authorities a far-reaching right of control and intervention in regard to the cartels in question, including the fixing of maximum and normal prices. Besides these provisions, there is another special Law of October 17th, 1929, relating to the punishment of war profiteering, as amended by the Law of April 25th, 1924. § 10 of the Law also applies specially to *agreements* concluded for the purpose of obtaining unduly high prices for necessities.

Thus the present juridical position in Czechoslovakia provides the authorities with the means of exercising supervision over cartels.

From the point of view of civil law, it should perhaps be pointed out that there is no procedure analogous to the denunciation of agreements without notice for grave reasons such as is allowed by § 723 of the German Civil Code. According to the publicists, however, the courts will in fact follow the practice of the German cartel court and recognise exceptional denunciations of this kind based on general legal considerations (*clausula rebus sic stantibus*), but only after all conventional legal remedies have been exhausted. M. Hexner quotes in his book a number of decisions of appeal courts which adopt, generally speaking, a sympathetic attitude towards the question of the creation of cartels.

During the last few years the problem of a *special law* has been examined very carefully. Two draft reports of the Ministry have already been rejected by the representatives of the economic interests after examination, and a new draft, the text of which (taken from Hexner's book) is attached hereto, is at present under discussion.

Annex 1.

EXTRACT FROM DR. HEXNER'S BOOK ENTITLED
" PRINCIPLES OF CZECHOSLOVAK LAW ON CARTELS "
(Berlin, 1929. C. Heymann).

Latest Czechoslovak Draft Law on Cartels.

§ 1.

1. Agreements whereby independent heads of undertakings combine in order to influence, by joint action, production, sale, credit, business conditions or prices shall be valid only if they are drawn up in writing. This provision shall not affect any rules which also render the validity of agreements subject to other conditions. Agreements must be notified immediately to the Ministry of Industry and Trade, together with the names of the persons empowered to represent the association (cartel etc.) in relations with other parties.

2. Detailed provisions regarding the notification of agreements to the Ministry of Industry and Trade shall be issued by means of a governmental decree.

3. Decisions based upon such agreements or relating thereto shall be attested in writing.

4. The governmental decree may stipulate that the rules laid down in 1 and 3 shall not apply to agreements or decisions of associations of small undertakings of local importance only.

§ 2.

An engagement to observe agreements or decisions mentioned in § 1, when given by means of a verbal promise or by any similar assurance, shall be without legal effect.

§ 3.

1. Members of an association (cartel, etc.) may at any time denounce an agreement of the kind referred to in § 1 or withdraw their acceptance of a decision taken under § 1 if there be a reasonable ground for so doing, irrespective of any other grounds provided in the existing regulations. In determining the reasonableness of the ground, account shall be taken not only of the damage which such retiring member would sustain by continuing to belong to the association, but also other interests involved, more especially the benefit which he has derived or is deriving from membership of the association and the damage which his premature withdrawal may cause to the other members. In these circumstances, any member may at any time denounce an agreement or withdraw his acceptance of a decision, particularly if the conditions on which the agreement was concluded or the decision taken or conditions on which the head of the undertaking accepted it have ceased to exist or have undergone important modifications, and more especially if such agreements or decisions or the effects thereof unduly restrict the said member's economic freedom.

2. The denunciation or declaration of withdrawal shall be made in writing and shall contain the reasons for the step taken.

3. If within three weeks after having received the denunciation or declaration of withdrawal the party concerned does not appeal, the denunciation or withdrawal shall be deemed to be accepted. If an appeal is made, the member concerned shall within fourteen days after receiving notice of appeal either apply for the institution of arbitration proceedings or bring the case before an ordinary court; otherwise, he shall be held to have abandoned his denunciation or withdrawal. If the arbitration proceedings instituted in consequence of his request do not result in an agreement, he shall bring the case before an ordinary court within a similar period. The period of prescription shall be suspended from the date when the request reaches the arbitration organ (§ 10) until the date when the applicant receives from that organ written notice that no agreement has been reached.

§ 4.

1. There shall be established at the Ministry of Industry and Trade an "Advisory Committee for Cartel Questions", which shall give opinions on questions submitted to it under the present Law (§ 7) and shall also, on its own initiative, make suggestions regarding the future legal regulations governing associations of undertakings (cartels, etc.).

2. The Advisory Committee shall consist of a chairman, vice-chairman, twenty-four members and the requisite secretarial staff. The chairman, vice-chairman, members and secretarial staff shall be appointed and removed by the Government. Two-thirds of the members shall be experts and one-third shall be appointed from among the officials of the Ministries concerned. The chairman, vice-chairman and members shall perform their duties in an honorary capacity.

3. A governmental decree shall be issued laying down detailed regulations regarding the convening of the Committee, its composition and its method of procedure in each individual case.

§ 5.

1. If the existence or the application of an agreement or decision provided for in § 1 constitutes a menace to the national economy or common weal, the Ministry of Industry and Trade may, in agreement with the Ministry of Food and the Ministry of Agriculture or of Public Works, in so far as the activities of the association (cartel, etc.) come within the competence of the two Ministries :

(a) Order that copies of all decisions taken under § 1 shall be submitted to it without delay or that any future decisions shall similarly be submitted to it, and that all measures which have been or are to be taken in execution of the agreements or decisions referred to in § 1, or any future such agreements or decisions, shall be communicated to it ;

(b) Decide that members of the association (cartel, etc.) are entitled to denounce the agreement or withdraw their acceptance of the decision at any time ;

(c) Declare such agreement or decision to be without effect or prohibit its execution ;

(d) Prohibit the future activities of an association (cartel, etc.) which has repeatedly ignored orders issued by the Ministry of Agriculture and Trade and has failed to comply with such orders even after receiving a preliminary warning.

2. The national economy or common weal shall, in particular, be deemed to be endangered if production or sale is restricted without valid reason, if credit conditions are rendered difficult, if prices are raised or high prices maintained, or if economic freedom is unfairly restricted by a boycott in respect of purchase or sale or by the fixing of prices or conditions of a discriminatory nature.

§ 6.

1. If the conditions laid down by associations (cartels, etc.) or the measures taken by them in regard to prices are such as to constitute a menace to the national economy or common weal by an abuse of the economic or commercial predominance acquired by such associations, the Ministry of Industry and Trade may, in agreement with the Ministry of Food and the Ministry of Agriculture or of Public Works, in so far as the activities of the association come within the competence of either of those Ministries, decide in general that any third parties threatened or injured by the measures in question, and bound by contract to the association or its members, may at any time denounce the contracts concluded under the conditions to which objection has thus been raised. If there is reason to believe that, apart from the condition to which objection has been taken by the Ministry of Trade and Industry, the contract would have been concluded, the measure taken by the Ministry shall only allow of withdrawal of acceptance of the said condition or denunciation of the price agreement concluded on the basis of the price-fixing decision to which objection is taken.

2. Contracts comprising a number of independent engagements may not be denounced, nor may acceptance thereof be withdrawn, unless some of the engagements have not already been completely fulfilled.

§ 7.

1. The Ministry of Industry and Trade may, before taking any measure provided for under § 5 (1) (b)-(d) or § 6, negotiate with the association (cartel, etc.) concerned with a view to reaching a friendly agreement.

2. The Ministry of Industry and Trade shall, before having recourse to any of the measures referred to in the preceding paragraph, apply for an opinion to the Advisory Committee for Cartel Questions (§ 4).

§ 8.

Any measures taken by the Ministry of Industry and Trade under §§ 5 and 6 shall be notified to the associations (cartels, etc.) to which the measures are to apply. Further, if measures are taken under § 5 (1) (b)-(d), they shall also be publicly announced in periodicals to be designated by the Ministry of Industry and Trade.

§ 9.

1. A denunciation or declaration of withdrawal, based on a measure taken by the Ministry of Industry and Trade under § 5 (1) (b) or § 6, shall be made in writing within one month from the publication of the said measure (§ 8), otherwise the right of denunciation or of withdrawal shall lapse.

2. If the party concerned does not appeal within three weeks after receiving notice of the denunciation or declaration of withdrawal, the denunciation or declaration shall be deemed to be accepted. If an appeal is made, the member of the association (§ 5) or the third party to the contract (§ 6) shall, within 14 days after receiving notice of appeal, either apply for the institution of arbitration proceedings or bring the case before an ordinary court; otherwise he shall be held to have abandoned the denunciation or withdrawal. If the arbitration proceedings instituted in consequence of his request do not result in an agreement, he shall within a similar period bring the case before the ordinary court. The period of prescription shall be suspended from the date when the request is received by the arbitration organ (§ 10) until the date when the applicant receives from that organ a written notice that no agreement has been reached.

3. The arbitration organs (§ 10) and the ordinary courts shall be bound to accept the decision of the Ministry of Industry and Trade that the national economy or public weal is menaced (§§ 5 and 6).

§ 10.

The organs competent to undertake arbitration under § 3 (3) and § 9 (2) shall be constituted by a governmental decree, which shall also lay down detailed regulations regarding the composition of such organs and their procedure.

§ 11.

Measures taken by the Ministry of Industry and Trade under §§ 5 and 6 may be revoked if the reasons for which they were taken cease to exist. The revocation of such measures shall be communicated to the associations (cartels, etc.) to which they refer. The revocation of a measure taken under § 5 (1) (b)-(d) or § 6 shall be published as provided in § 8.

§ 12.

The Ministry of Industry and Trade may, if the application of the present law so requires, instruct its organs empowered to do so to inspect the books and registers, industrial or business premises, shops or offices of associations (cartels, etc.) and, if necessary, those of their members also, and call for reports on their conditions of production, business or trade. Such right of inspection shall not apply to technical installations or to methods of production which are secrets known only to the parties concerned. Information so obtained may not be used for the purpose of collecting taxes or duties.

§ 13.

1. If there is reason to believe that the activities of an association (cartel, etc.) might endanger the national economy or common weal, the Ministry of Industry and Trade may require it to deposit security not exceeding 10,000,000 Czechoslovak crowns. The amount of such security shall be determined in each case by the extent and economic importance of the association. The sums so deposited shall constitute security for any fine imposed upon the association (cartel, etc.) or its members by an administrative or judicial authority under the present law. If the association fails to deposit the security within the prescribed time-limit, the Ministry of Industry and Trade may prohibit it from carrying on its activities.

2. The Government shall issue a decree laying down the detailed rules regarding the form of the security and the return thereof.

§ 14.

Any person failing to observe the provisions of § 1 regarding the notification of agreements and the name of the representative of the association (cartel, etc.) to the Ministry of Industry and Trade or the written attestation of decisions taken, and any person carrying out the terms of agreements or decisions which contravene the provisions of § 1 or failing to comply with an order issued by the Ministry of Industry and Trade under § 5 (1) (a), shall be liable to an administrative fine not exceeding 10,000 Czechoslovak crowns, unless the offence is punishable under §§ 15 or 16.

§ 15.

1. Any person who wilfully or by gross negligence :

(a) Fails to attest in writing or notify agreements or decisions as provided in § 1, although ordered to do so by the Ministry of Industry and Trade under § 5 (1) (a) ;

(b) Gives in the communications provided for in § 5 (1) (b), or in the reports on production or business or commercial transactions provided for in § 12, information which is incorrect, or is incomplete on any essential points, in regard to the agreements or decisions referred to in § 1 or the measures specified in § 5 (1) (a), shall be guilty of an offence and shall be liable to imprisonment for not less than one month and not more than one year, and a fine of not less than 1,000 and not more than 50,000 Czechoslovak crowns.

2. An attempt to commit such an offence shall also be punishable.

§ 16.

1. Any person who wilfully or by gross negligence :
 - (a) Carries out the terms of an agreement or decision declared to be without legal effect under § 5 (1) (c), or the execution of which has been prohibited under § 5 (1) (c) ;
 - (b) Carries or helps to carry such an agreement or decision into effect ;
 - (c) Takes part in an association (cartel, etc.) the activities of which have been prohibited under § 5 (1) (d), shall be guilty of an offence and shall be liable to rigorous imprisonment for a period of not less than three months and not more than two years, and a fine of not less than 10,000 and not more than 200,000 Czechoslovak crowns.
2. An attempt to commit such an offence shall also be punishable.

§ 17.

1. Any person who, without being authorised to do so, divulges to a third party a secret relating to trade or production which has come to his knowledge in the exercise of duties entrusted to him under § 12 by the Ministry of Industry and Trade, or who makes use of such secret in an undertaking of his own or in another undertaking, shall be guilty of an offence and shall be liable to imprisonment for not less than 14 days and not more than six months, or a fine of not less than 200 and not more than 50,000 Czechoslovak crowns, or to both penalties.
2. An attempt to commit such an offence shall also be punishable.

§ 18.

1. The administrative penalty provided for in § 14 shall be imposed by the Ministry of Industry and Trade. Proceedings arising out of the acts punishable under §§ 15-17 shall be taken by the civil correctional courts (*Zivilstrafgerichte*), even if the party charged is of military status.
2. The sums received as fines under the present law shall accrue to the State.

§ 19.

The provisions of the present law shall also apply to associations of heads of undertakings (cartels, etc.) having their seat abroad, in so far as they carry on their activities in the territory of the Czechoslovak Republic.

§ 20.

1. The provisions of the present law shall also apply, with the modifications specified below, to agreements and decisions of, and measures taken by, associations of undertakings (cartels, etc.) constituted before the entry into force of this law, if the said agreements are still in force or if the said decisions or measures have not then been fully carried into effect.
2. A written record of agreements provided for in § 1 (1) must be drawn up within one month after the coming into force of the present law ; otherwise they shall become invalid.

3. Any decisions provided for in § 1 (3) which may not yet have been fully carried into effect shall be attested in writing within one month after the coming into force of the present law.

§ 21.

The present law shall come into force six months after promulgation thereof. All members of the Government shall duly carry it into effect.

Annex 2.

COMPARATIVE ANALYSIS OF THE ATTACHED DRAFT LAW ON CARTELS.

Submitted by Dr. TSCHIERSCHKY.

[*Translation.*]

(a) *Fundamental Provisions.*

§ 1 determines, in the same spirit as the German decree, the scope of the contracts and resolutions coming under the law, while avoiding an exact definition; as in the Norwegian law, only certain unimportant local agreements may be excepted. § 2 also prohibits the giving of engagements on word of honour.

§ 3 gives a member the right to withdraw without notice, not only on various legal grounds, but also on the ground that the original conditions have changed or ceased to exist so far as he is concerned; it thus provides for the application of the *clausula rebus sic stantibus*—a principle which is also found in the *rulings* of the German courts in relation to cartels (for instance, in the case of concerns subsequently obtaining a predominant position in the cartels). Further, as in the German cartel decree, denunciation of the agreement is allowed on account of undue restriction of individual liberty of action. Any dispute as to the justification for denouncing an agreement is, however, settled by arbitration (as specified in detail in § 10) or by the ordinary courts.

§ 5 confers on the Minister of Commerce practically the same rights of intervention as paragraph 4 of the German decree and states the grounds therefore in almost the same terms. § 6 provides, like the German § 10, for intervention against business conditions and measures relating to prices—but apparently only as regards cartels and not, as in German law, against big capitalist concerns—by according to third parties the right to withdraw from contested agreements.

In conformity with § 7, the Ministry can proceed in the first instance by negotiations.

§ 12 confers far-reaching powers of investigation upon the central authorities, and imposes upon the associations the corresponding obligation to give information.

§ 13 gives the central authorities the right to require an association to give security up to 10 million Czech crowns in cases where there is reasonable cause to fear that the economic life of the country or the interests of the community will be prejudiced, and to forbid the association to continue business should it fail to do so—a novel and very effective remedy, as the sum deposited is regarded as security for payment of any fines provided for in this law.

The draft law does not contain any special regulations on boycotts, etc. § 5, No. 2, however, relates to price discrimination and to stipulations regarding discount accorded to members of the cartel (*Treuerabattklauseln*), but not to boycotting unless it comes under the general provisions of this paragraph concerning restriction of output or sale.

(b) *Procedure.*

As has been said, no provision is made for a *special* court like the German cartel court. According to § 3, No. 2, the question of the admissibility of denunciation without notice and denunciation generally, as also withdrawals on the strength of ministerial action taken under §§ 5 or 6, are decided by arbitration or by the ordinary courts.

§ 4 provides for an "Advisory Committee for Cartel Questions" to work with the Minister of Commerce, two-thirds of whose members are to be experts and one-third officials of the Ministries concerned. This Advisory Committee will be required to submit reports, but it can also make proposals for legislative reforms. This body roughly corresponds to that proposed by the Salzburg Congress of Jurists. The Ministry must obtain the opinion of this Committee when taking action in virtue of §§ 5 and 6.

No procedure is therefore provided for appeals against measures taken by the Minister; indeed, the ordinary courts when adjudicating on cases of withdrawal under §§ 5 and 6 are bound by the decision of the Minister with regard to the question whether there is danger to the economic life of the country or the interests of the community.

(c) *Penal Provisions.*

These provisions are more detailed than in the German law; they are enumerated in §§. 14 to 18 and comprise penalties for breaches of regulations, imprisonment and fines up to 200,000 Czech crowns. The first-mentioned penalties are imposed by the Minister, and the others inflicted by the ordinary courts.

(d) *Application of the Law.*

§ 19 of this law expressly abrogates the old Law on Combination of 1870.

(e) *Summary.*

This draft law accordingly confers far-reaching and really autonomous powers on the Administration, but ordinary judicial procedure is retained in cases of denunciation without notice.

FRANCE.

REVIEW BY M. HENRI DECUGIS.

[*Translation.*]

I.

The modern principle of the freedom of trade and industry was introduced into France in 1776 by Turgot's Edict abolishing the corporations and guilds, with whose strict corporative regulations producers and merchants were obliged, under the old regime, to comply ; the effect of these organisations had been to impede the development of trade by stifling individual enterprise.

Shortly after the outbreak of the French Revolution, the Act of March 2nd, 1791, laid down the fundamental principle of the freedom of trade and industry—a principle which, with some slight modifications, still forms the basis of the country's economic organisation. This Act reads as follows :

“ All persons are at liberty to carry on such business or to exercise such profession, art or craft as they may choose.”

At that time, the reaction against the corporations of the old regime was so strong that, shortly afterwards, the Act of June 14th, 1791 (Chapelier's Act), was passed to prevent their reconstitution. This Act, which was drawn up in the emphatic style then in vogue, prohibited all agreements and even any meetings for the discussion of common interests either by the masters or the men, stating that such meetings were “ unconstitutional and contrary to liberty and to the Declaration of the Rights of Man.” This Act was not repealed for nearly a century, when the Act of March 21st, 1884, authorising the formation of trade organisations, was passed.

Thus, corporative agreements were prohibited at the time of the French Revolution in order to protect the individual liberty of traders and manufacturers, and this conception of the question may be said to have persisted during the greater part of the 19th century.

The right of association was regarded as dangerous to the individual liberty of the trader or manufacturer, and was therefore sacrificed without hesitation.

Moreover, the imperfect means of transport and the inadequate technical processes for the preservation of perishable goods enabled speculators to monopolise foodstuffs. These two factors had a profound influence on juridical conceptions at the time. The combinations frequently formed between holders of commodities made it a very easy matter for monopolists to fix exorbitant prices for perishable goods to the prejudice of consumers. Combinations were looked upon as the cause of famine and oppression. Consequently, monopolisation was regarded by legislators of the revolutionary period as a capital offence when it applied to bread, meat, oil and other foodstuffs, or to coal, brandy, soap, tallow, wool, hides and textiles of all kinds except silk goods.

In the 19th century, the return of social and economic stability, the development of railways and steam navigation, and to a lesser extent the progress of the food-

preserving industry, reduced the dangers of monopoly, and the Draconian provisions mentioned above were gradually replaced by more lenient measures; however, the opposition to industrial or commercial agreements was still maintained.

Generally speaking, it may be said that since the Revolution French law has endeavoured by successive attempts to establish equilibrium between the interests of producers and those of consumers, but has not yet succeeded. As we shall see, the Act of December 3rd, 1926, marks the most recent step in this direction.

Private contracts were regulated by the Civil Code in 1804. This Code recognised the principle that persons should be free to enter into agreements without other restrictions than those resulting from certain special laws and from public policy in general.

As regards these special laws, mention should be made—apart from the Act of June 14th, 1791, to which we have just referred—of the Act of the 22nd Germinal, Year XI, under which the parties to combinations between employers for the purpose of “bringing about unjustifiable and improper reduction of wages” were liable to a fine and imprisonment. The provisions of this Act were included in substance in Article 414 of the Penal Code of 1810, the text of which, as amended in 1864, reads as follows :

“ *Article 414.* Any person who, by the use of violence, assault, threats or fraud, causes or maintains, or attempts to cause or maintain, a concerted stoppage of work with a view to forcing wages up or down or to interfering with the free exercise of industry or labour, shall be punished by a term of imprisonment varying from six days to three years and a fine varying from 16 francs to 3,000 francs or by one of these two penalties alone.”

This Article is still in force. It should be pointed out, however, that it would not apply to an agreement made between a group of manufacturers, without fraud or interference with the freedom of the owner, for the purpose, say, of closing a factory in an unfavourable geographical situation or a mine too costly to run. It hardly applies, therefore, to industrial agreements in their present-day form.

In 1864, Article 416 of the Penal Code was amended in order to prevent employers and employees, under penalty of a fine and imprisonment, from interfering with the free exercise of industry or labour “by means of fines, prohibitions, restrictions, deprivations, imposed under a concerted plan”.

This legal provision was repealed in 1884, when, as a result of the irresistible pressure of requirements due to economic and social development, public opinion finally recognised the utility of trade organisations.

The true origin of industrial and commercial agreements in France, however, dates from the Act of March 21st, 1884, of which the principal author was Waldeck-Rousseau. Under this Act, the free formation of trade organisations having as their object the study and defence of economic, industrial, commercial and agricultural interests was formally authorised. It abrogated not only the Chapelier Act of 14th June 1791, but also article 416 of the Penal Code. It further provided that such trade unions should cease to come under articles 291 to 294 of the same Code according to which the formation of associations of more than twenty persons was subject to previous Government authorisation. Seventeen years later, these articles were entirely repealed by the Act of 1st July 1901 on Associations.

At the present time, therefore, all associations, unions, or agreements between manufacturers or traders for the defence of their common interests are lawful in France, whatever their form may be, provided that the existing laws, decrees and

regulations are observed. Cartels of producers or merchants may accordingly be formed without any restriction. This also applies to the establishment of joint purchasing or selling organisations and to vertical or horizontal combinations in all forms—through amalgamation, merging of interests or otherwise—even if they include all the firms manufacturing or selling a certain commodity.

II.

Restrictions are, however, imposed in order to prevent the improper exercise of this right. The general principle mentioned above is considerably restricted by Article 419 of the Penal Code, the present text of which, as amended by the recent Act of December 3rd, 1926, reads as follows :

“ *Article 419.*

“ All persons :

“ (1) Who, by wrongful or calumnious reports deliberately disseminated among the public, by market bids made for the purpose of upsetting quotations, by offering better prices than those asked by the sellers or by any fraudulent means or devices whatsoever ;

“ (2) Or who by exercising or attempting to exercise, either by individual or collective action, any influence on the market for the purpose of acquiring profit other than that derived from the natural operation of the law of supply and demand ;

“ Directly or through a third person promote or attempt to promote an artificial rise or fall in the prices of foodstuffs and other commodities or negotiable securities, either public or private :

“ Shall be punished with a term of imprisonment varying from two months to two years and a fine varying from 2,000 to 100,000 francs.

“ The Court may also forbid the offender to reside in a certain place for not less than two and not more than five years.”

At the present time, Article 419 constitutes the only general limitation provided for under French law to the operation of industrial agreements. It is important to note, however, that this Article only applies when such agreements are used for the purpose of bringing about or attempting to bring about the fraudulent manipulation of prices.

Mention should also be made of Article 412 of the Penal Code as being applicable, in certain rather rare cases, to industrial and commercial combinations. This Article provides for the punishment of interference with the freedom of bidding at auctions and the free submission of tenders by any assault or by violence or threats, or by gifts or promises eliminating bidders.

Up to the present, therefore, the French system has been essentially punitive. There are no preventive provisions authorising the public authorities to refuse to allow the formation of an industrial agreement or to intervene in regard to its operation unless the fraudulent manipulation of prices is attempted.

This purely punitive nature of the French system also extends to unfair competition between traders even when not involving any infringement of Articles 412 and 419 of the Penal Code.

The French Commercial Courts regard as acts of unfair competition, entitling the persons or firms injured to damages, certain forms of commercial boycott resulting from agreements between manufacturers and traders, when such acts are accompanied by practices regarded as fraudulent or illicit—for instance, when their object is to ruin a competitor.

In application of this principle, the Seine Commercial Court at Paris decided on January 21st, 1929, that a group of newspaper proprietors commits an act of unfair competition, entitling the injured parties to claim damages, if, by concerted agreement, it endeavours to prevent the transport, distribution and sale to the public of a rival newspaper, by refusing, for instance, to allow agents and retailers who continue to sell the rival paper to sell its papers. Similarly, newspaper proprietors commit an act of unfair competition if they refuse to accept advertisements from customers who also advertise in the rival paper.

This constitutes an application of the very general principle laid down in Article 1382 of the Civil Code to the effect that "every act committed by an individual resulting in injury to another involves an obligation on the party responsible for its occurrence to make reparation therefore".

Under the general provisions of the common law, therefore, commercial courts may award damages against traders or manufacturers committing acts of unfair competition.

As we have just seen, cartels or agreements formed by manufacturers and traders to regulate production and prevent unfair competition are not subject to any special regulations in France. They are governed by the provisions of the common law now in force.

Agreements of this kind are accordingly allowed, provided they do not pursue any unlawful aim. If, however, they are detrimental to the public interest, they may be cancelled by the Courts at the request of an injured party, in virtue of Articles 6 and 1131 of the Civil Code which prohibit any agreements contrary to public policy or having an unlawful object.

Moreover, as we have seen, the parties to such agreements may be subject to criminal prosecution, under Article 419 of the Penal Code, if they promote or attempt to promote an artificial rise or fall in the prices of foodstuffs and other commodities or of transferable securities.

If this article were interpreted too literally, the conclusion might be that all agreements between producers or traders are prohibited, when the object of such agreements is to influence prices. The French courts, however, have never interpreted Article 419 so strictly as this, but, particularly during the last forty years, they have always—in conformity with the real intentions of the legislator—recognised as legitimate agreements which do not pursue any fraudulent aim and the sole purpose of which is to regulate quotations and to prevent the disasters caused by a collapse of prices. Consequently, these agreements do not in themselves constitute illegal associations.

The advantages of such combinations are recognised by the Labour Party. In principle, this party is not opposed to industrial combinations or cartels, which usually have a happy influence on the rate of wages.

This favourable attitude towards agreements having a lawful object has grown stronger during the past few years.

By a judgment of April 14th, 1891, the Paris Court of Appeal recognised the legality of an agreement between phosphate producers representing, approximately, two-thirds of the phosphate output of the District of the Somme, for the purpose of limiting the output of its members, fixing the maximum and minimum selling prices and entrusting sales, both for the home market and for abroad, to a joint

agent; the number of producers adhering to this agreement was not, however, sufficient to constitute a *de facto* monopoly, nor did the combinations bring about any abnormal increase in the price of phosphates.

It has further been held that the conclusion by manufacturers of an agreement to pool their goods and to sell them at the same price does not constitute an illegal act provided that their tariff prices are not invariable but are subject to market fluctuations, and that it is not the object of the manufacturers to force up the selling price of their commodities by means of an artificial rise, but to prevent their depreciation by taking steps to remedy the effects of injurious competition (judgment of the Grenoble Court of Appeal, dated May 1st, 1894).

Similarly, the Paris Court of Appeal decided, on January 14th, 1902, that a contract between a group of publishers, in agreement with retail booksellers, for the purpose of fixing prices below which the retailer is forbidden to sell to the public, under penalty of having his supplies stopped by the publishers, does not constitute a punishable offence.

Finally, in a judgment of the Seine Commercial Court of December 5th, 1906, affirmed by the Paris Court of Appeal, it was stated that "the principle of the freedom of trade does not go so far as to deprive the manufacturers or holders of a given commodity of the right to pool their efforts, intelligence and knowledge for the purpose of reducing overhead charges and preventing their trade from being ruined".

In the past, however, the French Courts showed a marked tendency to regard as void and contrary to the freedom of trade and industry industrial agreements comprising the whole of the manufacturers of a given commodity, when the purpose of such agreements was to monopolise the commodity and force up the price by artificial means (judgment of the Bordeaux Court, dated January 2nd, 1900).

At the present time, the attitude of the Courts is favourable to commercial and industrial agreements, provided that it is not their object to bring about an excessive rise in prices. Judges no longer make a point of ascertaining whether the agreement comprises the whole of the producers in a given district or only some of them. *De facto* monopoly is no longer a criterion of the illegality of the agreement.

In this respect, the attitude of the Courts is based on a report submitted in 1912 to the Court of Cassation by Judge Michel Jaffard, the principal part of which reads as follows:

"If we were to lay down the principle that all these combinations are to be condemned we should be refusing to look the facts in the face and to distinguish between that which is honourable and worthy of respect and that which is dangerous and fraudulent. Accordingly, judges who are in touch with present-day tendencies are careful to discriminate between what are now called good trusts and bad trusts."

This doctrine has been confirmed very clearly by the Court of Cassation. In a judgment of October 26th, 1921, concerning the interpretation of Article 419, it laid down that an agreement for the purpose, "not of bringing about an artificial rise in prices, but of putting a stop to their depreciation owing to local competition" is not to be regarded as unlawful and as such coming under Article 419. Consequently, the distinction between agreements comprising the whole and those consisting of a certain number only of producers in the same district has now been abandoned.

Further, the recent decision of the Court, dated June 25th, 1926, relating to the consortium of manufacturers of carbide of calcium, explicitly recognised the validity of agreements which, "far from resulting in the imposition of excessively high prices on consumers of carbide, have, on the contrary, had the effect of enabling them to

obtain the commodity they required at prices commensurate with the normal market value and totally uninfluenced by any element of illicit speculation." By this decision, it was even held that there was nothing unlawful in the action of the manufacturers' consortium in bringing about "a sharp fall in the price of the product, which was their only weapon of defence against the manœuvres of their adversaries; and that they had so acted purely in self-defence against an anarchical competition which could not be looked upon as natural and normal."

In other words, a punishable offence is committed only when the object of the agreement is to manipulate prices so as to make "excessive profits". The determination by the Courts of what constitutes excessive profit in any particular case may, of course, be a very delicate matter, and the assistance of experts is often required.

The Civil Court of the Seine at Paris, basing its decision on similar considerations, decided on January 6th, 1925, that an association of music publishers did not commit an offence making them liable to a claim for damages when it instructed its constituent members to refuse trade discount to retailers failing to observe certain conditions of sale fixed by the association.

When the Act of December 3rd, 1926, amending the text of Article 419 of the Penal Code was under discussion, the "Rapporteur" of the Committee of the Bill in the Chamber of Deputies accurately summed up the present doctrine in the following words:

"Where there is no criminal intent there is no criminal offence."

The Rapporteur of the Bill in the Senate expressed himself in the same terms, stating that no conviction could be recorded unless prices had been manipulated with criminal intent: "Criminal intent is a necessary factor. The text proclaims, in the ears of the whole world and especially of the judge, that criminal intent is an essential element." M. Barthou, the Minister of Justice, at once added: "I endorse, on behalf of the Government, the Rapporteur's statement."

As regards trading agreements, the Rapporteur of the Committee of the Chamber of Deputies stated:

"To punish all combinations without distinction would be contrary to the most obvious economic necessities.

"At the second meeting on March 13th, 1924, (*Journal Officiel* for March 14th, page 1264), M. Raynaldy, the Rapporteur, asked the Chamber whether it was true that combines were an indispensable factor in modern economic life.

"I do not wish to make a personal statement on the matter. I have been fortunate enough to find an admirable exposition and justification of the Committee's whole doctrine in a work by M. Léon Mazeaud which has been recently published ("Le problème des unions de producteurs devant la loi française" — Librairie Dalloz, 1924), with a preface by Garraud, the great expert on criminal law.

"As regards the necessity for combines, the author states:

"At the present time, industrial combination is a vital matter for France. Faced as she is with Germany, who has practically completed the organisation of all her industries into combines, with the United States, who is making great strides in that direction, and with Great Britain, who is following the same course, French industry, if it remains unorganised, is bound to succumb beneath the weight of these gigantic international combines.

“ Nevertheless, France is entitled to a leading place in the world market. She will only conquer this place, however, by organising her forces, and only by collective action on the part of her producers will she be able to defend her own market against foreign enterprise.

“ Can there be any question, therefore, of prohibiting French combines ? If we do this, we shall open the door to foreign combines against which the law can never take any effective action.

“ It is not possible to refuse to allow French manufacturers to amalgamate, when it is impossible to prevent foreign combines from transacting business in our territory.

“ The absence of a French oil trust has made us dependent upon American, British and Dutch trusts. This is of no advantage to the consumer.”

It is interesting to give here some extracts of the comments made on the Act of 3rd December 1926 by the Dalloz Law Reports :

“ Certain combines are therefore legitimate. According to a formula which has now become classical, in spite of its triviality, there are ‘ good and bad trusts ’, or, we should say, good and bad combines, since not all combines are trusts.

“ Accordingly, instead of punishing all combines which manipulate the prices of commodities or negotiable securities, either public or private, the Act of December 3rd, 1926, only punishes those whose object it is to ‘ acquire profit other than that derived from the natural operation of supply and demand.’ It is this profit as thus defined which constitutes the criterion by which a distinction is made between lawful and unlawful combines.

“ In the former text of Article 419 of the Penal Code, there was no reference to the profit which the members of combines were able to realise. Combines promoting the rise or fall of prices ‘ above or below the rate which would have resulted from free competition ’ were punished. Nevertheless, it was the practice of the courts to consider excessive profit as the criterion by which a distinction was drawn between ‘ good and bad combines ’ and the legislators’ sole object was to give statutory confirmation to this practice.

“ This fact was clearly brought out in the preparatory work : the Act of December 3rd, 1926, confirms the case-law distinction between ‘ good and bad combines ’, this distinction being based on the criterion previously employed by the Courts in their decisions, namely, the extent of the profit.

“ In the first place, the Act of December 3rd, 1926, makes the same distinction between ‘ good and bad combines ’ as case law. M. RAYNALDY defined this in his *Report* (Annex No. 7047 — *Journal Officiel* of May 23rd, 1924, page 240) as follows : ‘ Your Committee ’, he said, ‘ has recognised that agreements are a new economic development and, as I shall show, has confirmed the practice of the Courts which has grown up as a result of the tentative decisions inevitable in dealing with a question of such difficulty.’ He made a similar statement to the Chamber (meeting of March 6th, 1924 — *Journal Officiel* of March 7th, page 1124) as follows : ‘ According to case law, a distinction must be drawn between combines, some of which are good while others are bad, and only agreements having an unlawful object and interfering with the normal trend of prices should be punished. The text which we are submitting to you is designed to confirm this case law’. In his report to the Senate (Annex No. 338, page 34) Senator POUILLE wrote : ‘ The judge should ascertain whether the object of ‘ the influence exercised on the market ’ was to acquire profit other than that ‘ derived from the natural

operation of the law of supply and demand' ". This was also confirmed by the Court of Cassation in the judgments referred to above, the Court deciding that the judge should ascertain whether the object of the combine was ' to fix the price of a commodity at a figure not in accordance with economic conditions '. And M. Bokanowski, Minister of Commerce, expressed himself in similar terms before the Senate (sitting of November 19th, 1926 — *Journal Officiel* of November 20th, page 1654) : ' The difference established by case law between good—that is to say, honourable and lawful agreements, as stated by Chevalier FAURE, who acted as Rapporteur of Article 419 at a meeting in February 1810 before the Legislature—and other combines, is clearly set forth in the Exposé des motifs now under discussion. I should like to remind the Senate of this distinction which reads as follows :

“ ‘ As regards combines, the Bill submitted to you clearly distinguishes between unlawful combines, as defined by Article 419, and agreements which, by regulating competition in order to bring it into line with market requirements, aim solely at preserving a normal equilibrium between production and consumption, at stabilising the market, and regulating labour, by preventing crises due to over-production and sales at a loss and which are, moreover, often necessary for the purpose of safeguarding our national interests in our relations with similar foreign combines.’

“ As Senator Poulle, the Rapporteur, stated with the authority attaching to his words, no less by reason of his office than of his talent and extensive legal knowledge, the present Bill can do nothing to prevent their formation and operation. Combinations of this type will have nothing to fear from the law in the future, so long, he said, as they involve no criminal or punishable offence which must be followed by prosecution, whether it be committed by a combine or by any individual private person.

“ Article 419, as amended by the Act of December 3rd, 1926, does not merely lay down the principle of a distinction between ' good and bad combines ', but establishes a criterion for this distinction.

“ In regard to ' profit other than that derived from the natural functions of supply and demand ', the law of December 3rd, 1926, like the former case law, bases the distinction between ' good and bad combines ' on the criterion of excessive profit—a distinction and criterion which M. Raynaldy (Rapporteur) considered as well summed up in the preface by M. René Garraud to our work on the ' Problème des unions de producteurs devant la loi française ' (Daloz 1924). As M. Raynaldy remarked at the second meeting of the Chamber on March 13th, 1924 (*Journal Officiel* of March 14th, 1924, pages 1262-1265), while combines are not in themselves punishable, abuses must be punished. A criterion must be found which will enable us to discriminate between good and bad agreements. Hitherto the question has been governed by the wording of Article 419. Article 419 refers to natural and free competition. We have replaced this criterion by another, namely, the profit derived from the normal working of the law of supply and demand. We have not invented anything new. If you are good enough to follow my argument, you will see that I shall shortly refer to the use of these expressions in the judgments of the courts. We shall simply have embodied in the actual terms used by the Courts ever since they have dealt with this question of combines.”—

Certainly it may sometimes be difficult in practice to determine the point at which the influence of industrial agreements on prices ceases to be lawful and brings

about an unlawful inflation of prices. The amount of profit realised on a given transaction is a convenient but often deceptive criterion, especially in the case of perishable goods, which are subject to seasonal fluctuations or to sudden changes in supply or demand.

Many other factors have to be considered also : *inter alia*, the necessity for the seller to balance his receipts and expenses over a sufficiently lengthy period in order to provide for adequate remuneration of the capital and labour employed in his undertaking, and to set off the losses on certain transactions against the profits on others.

All legal definitions of the offence of price manipulation are therefore bound to be of a general character, and its determination is largely a matter for the judgment of the Court. This is a complicated and delicate task which it would be best to entrust to judges who have specialised in these matters.

In any case, Article 419 of the Penal Code is very rarely applied in France. During the last fifteen years the number of convictions was trifling. Since the entry into force of the Law of December 3rd, 1926, it is stated that only three small dairymen have been convicted for charging exorbitant retail selling prices.

Nevertheless, a very large number of industrial and commercial agreements exist in France. These are of various kinds. In some cases, they take the form of regulations issued by employers' federations or of joint purchasing and sales organisations whose business is conducted in the light of day. There are also private and secret agreements regulating production and selling zones or home or foreign prices, etc. Their exact number is unknown, as they are generally kept strictly confidential by the parties concerned.

Their number has largely increased since the war, and there are certainly at the present time some hundreds of them unobtrusively in action. They have undoubtedly done much to regularise production and stabilise prices in France, thus avoiding those violent oscillations which disorganise industry and create unemployment. In this sense they represent an element of social stability, the importance of which is beginning to be recognised by the different political parties, as was shown by the debates in Parliament on the Act of December 3rd, 1926.

Up to the present these industrial combines have not been guilty of flagrant abuses, and public opinion has not been roused by them, so that the authorities have not been called on to intervene. It is true that the depreciation of the franc, involving an apparent rise in selling prices in terms of francs, and the large increase in taxation, which is included in the selling prices, have led to numerous protests against the cost of living ; but these protests have not been very violent, for the cost of living in France is appreciably less than in, for example, the United States and Great Britain. It is manifest that if the combinations among producers had brought about an excessive rise in prices this rise would have found expression in the first instance in their own selling prices *i.e.*, in wholesale prices.

Thus, in December 1928, the wholesale and retail price indices, converted into gold values, on the basis of 100 for the year 1913, were as follows :

	France	United States	Germany	Great Britain
Wholesale prices	129	150	140	143
Retail prices	114	153	153	159

Speaking generally, an examination of the curves of the wholesale price indices, expressed in their gold values, shows that for several years past Germany and France, which are beyond dispute the two countries in which trading agreements or combines

have been most developed, are at the same time the countries in which wholesale prices are lowest.

This remarkable fact is no doubt due to many and complex causes ; nevertheless, it helps one to realise the influence of economic tendencies on the legal conceptions of our time, and perhaps also to understand why the intensive development of commercial and industrial agreements has not hitherto caused any appreciable agitation in public opinion or led to any Governmental action.

III.

As regards international trade, cartels have frequently engaged in *dumping* by the use of differential prices. By raising selling prices in the home market, a cartel can create a joint fund out of which it pays export bounties to its members, thus enabling them to ruin their competitors in some other country by selling below the cost price.

By the Customs Act of March 29th, 1910, the French Government took powers to adopt defensive measures against *dumping* in virtue of a simple decree approved by the Cabinet. Under this Act, the Government may :

“ Impose on goods, whether taxed or otherwise, enjoying a direct or indirect export-bounty in their country of origin or provenance, a countervailing duty equivalent to the amount of such bounty.”

No use has so far been made of the powers conferred by this law, though it still remains in force. Moreover, the great international cartels now in existence have made it almost superfluous, since as a general rule they reserve their home market for their own national producers and regulate exports by direct agreements between the producers, thus obviating the harmful effects of dumping.

As regards international agreements, it should be observed that the most recent ones, affecting potash, steel, aluminium, cement and dyestuffs, were encouraged by the French Government, which was kept informed of the course of the negotiations and of their conclusion, owing to their national and international importance.

As Montesquieu observed, *important commercial enterprises are inevitably matters of public concern*. This saying is perhaps even more true in the 20th century, in which economics are tending more and more to dominate politics. A quite recent example of this tendency is furnished by the Act of March 19th, 1928, which instructs the fiscal authorities to bring amalgamations of joint-stock companies to the notice of the Ministers of Justice and Commerce where the capital of any of the amalgamated companies exceeds 10 million francs. The power thus conferred on the authorities of looking into concentrations of capital exceeding a certain limit is intended to assist them in combating the abuses which might result therefrom ; but, as in the past, repressive action can only be taken by the Courts.

As a conclusion, we wish to call attention to this noteworthy fact—that events have gradually effected a profound transformation in French economic life. This country, which was formerly devoted mainly to agriculture and to small or medium-sized industries, has now become the seat of large industries and is taking a more prominent part in international trade.

Under the pressure of these developments the legal system has undergone important changes. The law at present in force has finally authorised industrial agreements. Their legitimacy and necessity are no longer disputed by the authorities, but the abuses to which they sometimes lead may expose the parties to legal penalties—though the latter are seldom applied.

GERMANY.

REVIEW BY DR. TSCHIERSCHKY

[Translation.]

I. *Preliminary Observations.*

1. In Germany, as in the other countries of Europe, cartels and capitalist organisations have, during the last half-century or so, gradually taken root and proved powerful factors in the promotion of industrial development. They have endeavoured to conform to the existing laws and, on the other hand, were subject only to the general principles embodied in these laws.

The legal provisions in question, both those of public and of civil law, were based on broad individualistic principles providing for freedom of manufacture, trade and agreements, and, impartially applied, proved decidedly favourable to the development of organisations. This adjustment of the laws, indeed, was the natural concomitant of a general economic expansion which, on the whole, was free from crises and violent contrasts, such as might have given rise to serious conflicts requiring special legislation for their settlement. At the same time, even before the war, this legal situation was by no means immune from sharp criticism, which occasionally hardened into definite demands for legal supervision. A comprehensive Government enquiry was instituted in 1903-1906, but did not reveal any necessity for a change in the legal situation. There was one exception, however, arising out of the existence of a monopoly in a natural product and explained by the fact that financial mining interests were involved, and the failure of the former voluntary syndication led to dangerous overproduction and the risk of a sharp fall in prices. A law was passed in 1910 establishing a compulsory syndicate for the sale of potash salts. The Prussian Minister of Trade at the time stated that, in the general interest, that law interfered with private economic relationships to a far greater extent than any previous law, but that it should have no successor.

A change in the *de facto* and *de jure* situation was brought about by the war; broadly speaking, both the existing and the new *ad hoc* organisations, most of which were in the nature of cartels, became essential components of a comprehensive system of public economy.

The changed political conditions of the post-war period gave increased importance to questions of public economy and a marked impetus to the existing tendencies to "socialisation", though only in a few branches of industry, such as coal, potash and iron, which had already been brought under fairly rigid control during the war and were then reorganised more strictly in accordance with the principles of public law. On the whole, however, the fundamental principles of the new Reich Constitution itself introduced very few changes in the existing tenets of private mercantile usage. Article 151 of the Constitution of 1919 ensures the economic freedom of the individual and of trade and industry, though subject to certain restrictions in social matters. Nothing has so far been changed, however, in regard to the relevant *principles of ordinary law*.

In 1923, a Decree was issued to check the abuse of individual ascendancy in the economic field, the so-called Cartel Decree (Kartell VO)—although, incidentally,

at least one clause of that Decree also applied to capitalist organisations as a whole. This Decree constituted a special law providing for a special judicial procedure before a "Cartel Court". Both in the sphere of substantive and procedural law, the new law partly superseded the previously existing ordinary law and procedure, although the latter remained valid. According to the official statement of reasons given at the time of its promulgation, the law was framed specifically with a view to the recovery of the national economy from the disastrous effects of inflation.

The Cartel Decree has now been in force for over five years, and the outcome of this latest development of German law regarding organisations is that at least its fundamental principle—the public control of organised private economic interests—has established itself so securely that there could no longer be any question of its revocation. Conclusive evidence of this view may be found in the fact that the thirty-fifth Congress of German Jurists (Juristentag), held at Salzburg in 1928, in dealing with the question: "Should the amendment and unification of German and Austrian cartel legislation be recommended?", ignored the actual form of the question and, in contrast to the views adopted at its pre-war congresses, accepted the necessity of such supervision as the basis of its resolutions, and found that it was only the legal regulations of the Cartel Decree that needed reform. The proposals it made with that object practically amounted—and I am not alone in holding this view—to the revocation of the special legal regulation created by this measure.

2. As will be seen from the foregoing, it is particularly difficult to give an account of the current legal situation in Germany, because there are in force, besides the Cartel Decree, provisions both of ordinary law and of public law; and, unless they are taken into consideration, it is impossible to give a clear idea of the legal structure and the real significance of the Cartel Decree. Accordingly, brief accounts are given below (Section II) of the legal provisions in question, the Cartel Decree (Section III), and (Section IV) a comparison, as far as is practicable, of that Decree with the Norwegian law, the Polish and Czechoslovak draft laws (which in the main are similar to the German), and, lastly, the current legal situation in Austria and the other Succession States.

II. THE LEGAL SITUATION OF CARTELS UNDER THE CARTEL DECREE.

The general law is based on the provisions of: (1) public law, and (2) private law; there are also: (3) certain individual provisions of public law which apply particularly to the organisation of cartels.

Ad (1): Provisions of Public Law.

(a) Present legislation in these matters is based on the Reich Legal Regulation introduced by the Gewerbeordnung of 1869, which (§ 1) favoured private initiative by establishing freedom of trade and abolishing the privileged position enjoyed until then by industrial organisations and guilds and therefore also doing away with compulsory organisation. Open competition is undoubtedly implicit in this principle, particularly in connection with freedom of contract, which is conferred by civil law. The legislators did not consider it necessary at that time to introduce any positive legal provisions to guard against organised attempts to establish monopolies, because, in view of this very freedom of industry and trade, the growth of monopolies was considered clearly impossible. The Industries Decree does not interfere with freedom

of private contract : there is no legal bar to the establishment of powerful industrial groups ; nor is there any legal notion corresponding to the fundamental prohibition of " restraint of trade " which exists in English and American law. Hence the public authorities adopt an entirely neutral attitude, and legal practice allows wide latitude as regards the formation of organisations established to control markets, and, in particular have an extensive system of compulsory organisations tolerated by the authorities. This legal situation as a whole was left untouched by the new Constitution of 1919.

Article 151 : " The economic organisation of the country must be in accordance with the principles of justice and must be framed with a view to securing for all a tolerable human existence. Within these limits, the economic freedom of the individual shall be ensured " ; " legal constraint shall be permissible only for the enforcement of threatened rights, or as a means of securing essential requirements of the common weal " ; Article 152 lays down the principle of " freedom of contract in commercial traffic . . . in accordance with the laws . . . Usury shall be forbidden and legal acts which are *contra bonos mores* shall be void." These principles, taken as a whole, do indeed lay down explicit limitations of a general social and moral nature, but they were already embodied in the ordinary law of the land, and do not provide any special safeguard for freedom of competition. On the other hand, Article 159 provides that " freedom of association for the preservation and improvement of labour and economic conditions shall be ensured for every individual and for all occupations. All agreements and measures which seek to limit or hamper such freedom shall be unlawful ", and, if this is taken in conjunction with the extensive development of the power of combination in the labour market, it must be admitted that, as the law stands at present, the combination of business undertakings in the form of cartels is safeguarded too. At the same time, it is clearly and explicitly laid down as a principle that any abuse of this power is forbidden.

(b) Although, in principle, freedom of association is allowed, the public authorities reserve the right to take steps withdrawing the juristic personality of or dissolving corporate bodies which act contrary to law or against the common weal. As cartels and capitalist organisations always adopt one of the forms prescribed by law, these provisions *ipso facto* apply to them, so that the declaration of nullity allowed under the Cartel Decree does not introduce any real innovation. The provisions in question are as follows :

§43 (1) of the Civil Code (Withdrawal of the juristic personality of an association).

§62 (1) of the Law regarding limited liability companies (*Gesellschaften mit beschränkter Haftung*) (Dissolution).

§81 (1) of the Law regarding co-operative and other trading associations.

Prussian Executive Law relating to §292 of the Commercial Code of the German Reich (Dissolution of joint-stock companies).

These provisions, however, have never yet been applied to cartels.

§100 (g) of the *Gewerbeordnung* forbids *compulsory corporate bodies* to fix prices or regulate competition in any way. The object of this prohibition is to prevent organisations which, with State support, have the power of compelling members from exercising their powers of compulsion for the purpose of forming cartels.

§253 of the Criminal Code of the German Reich (Prosecution for extortion) has only been applied sporadically in regard to the compulsory powers of organisation held by cartels.

§270 of the former Prussian Criminal Code of 1851 is still in force in regard to the so-called Submissionskartelle, but is of no practical value. It is impossible to say, moreover, whether and how far this question can be regulated by §355 of the Criminal Code now under consideration.

Ad (2) : *Provisions of Private Law.*

(a) Section 1, par. 138, of the Civil Code constitutes a *general rule of law* affording protection against civil juristic acts of any kind which are *contra bonos mores*. It reads : " A juristic act which is *contra bonos mores* is void ". This provision thus affords protection against abuses of the power of organisation which are *contra bonos mores* ; it thus affords protection not only against arbitrary acts in respect of individual members and similar acts compelling third parties to join the organisation, but also against the effects on the national economy and common weal of a policy of selling at usurious prices. It is thus a clause similar to, but in general narrower in scope than, that relating to offences against " l'ordre publique " or " public order " .

In practice, however, this rule of law has remained inapplicable, because the organisations concerned have not been found to constitute a *de facto* monopoly or to be practising " usurious exploitation " or to be making so-called " Knebelungsverträge ", *i.e.*, agreement intended to stifle competition, even though in individual cases the opposite party was proved to have seriously suffered from the consequences. The practical ineffectiveness of this clause is further explained, not only by the general recognition of these organisations, after the entry into force of the Civil Code, and their rapid extension, but also by the fact, already referred to, that the economic situation at the time allowed so much latitude that, from the legal point of view, serious dangers of the kind were hardly to be apprehended.

(b) A similar *general clause* was introduced in the Law against Unfair Competition at the time of its amendment in 1909. This clause reads : " Any person who, in the transaction of business and for competitive purposes, performs acts which are *contra bonos mores* may be sued for restraint and for compensation for damages ". As interpreted by the Reich Court, however, this particular clause does not protect the " public " or community in general, but is a measure for the protection of competition itself. As regards the interpretation of the term *boni mores* as applied to commerce, the only views generally considered are those of the business world itself, and, as the latter regards cartels as protective organisations against excessive competition itself, this special legal clause too has not proved to be so effective in the matter of cartels as was generally expected at the time when it was enacted. In any case, the Reich Court does not allow its applicability to competition between cartels themselves.

(c) Specific protection against damage caused by compulsory organisation, and particularly against outside parties, is afforded by §826 of the Civil Code, which reads : " A person who wilfully causes damage to another in a manner *contra bonos mores* is bound to compensate the other for the damage " .

The Reich Court, while in principle recognising the admissibility of this means of constraint, has been careful to establish certain principles limiting that admissibility. It requires that the means of constraint chosen and the method of application shall in themselves be admissible, *i.e.*, shall not be *contra bonos mores* ; that the object pursued shall also not be *contra bonos mores*, *i.e.*, shall not be directed against the actual existence of the opposite party ; and, lastly, that the aim and the means shall

be proportionate to each other, *i.e.*, that the most stringent means must not be employed if milder ones are sufficient. The considerable volume of case-law on the subject is itself not uniform, which is not surprising in view of the difficulty of judging of the facts in individual cases, particularly in matters connected with cartels.

Ad (3) : *Individual Provisions of Public Law.*

Besides the above-mentioned provisions of general public and private law, there are a number of important individual rules of public law which have the effect of limiting the powers held by organisations in various economic fields. In part, they are the outcome of attempts at "socialisation", *e.g.*, the laws regarding the coal, potash, electrical and iron industries, and partly also of special economic circumstances, *e.g.*, the law on matches. They are important in connection with cartel law, first because they provide for the possibility of State compulsion for the formation of selling syndicates, and, in the second place, because, according to §19 of the Cartel Decree, the branches of trade and industry so organised do not come within the scope of that Decree, as they are already under public control in virtue of the special laws.

These laws are as follows :

(a) The Law of 1919 *regulating the coal industry*, and the executive regulations of that law.

In the absence of voluntary combination among the mine-owners, the Reich Minister for Trade and Industry is empowered to compel firms to form syndicates for the sale of coal and coke of all kinds, and such syndicates must be organised in accordance with and in the forms prescribed by private law. These syndicates, together with the representatives of the States which own mines, form the Reich Coal Association (Reichskohlenverband), which fixes prices in accordance with the syndicates' proposals, due consideration being given to the interests of consumers. The Association controls the policy of the syndicates as regards the regulation of production and sales. There is a Reich Coal Board responsible for the management of the whole fuel industry.

(b) The potash industry is organised in a similar manner (Law of 1919 and executive regulations thereof), though in this case the adoption of the system meant simply the continued application—within wider limits, however—of the special regime established by the Law of 1910, to which reference has already been made.

(c) A Law was passed in 1919 appointing an adviser on all questions relating to the German electrical industry.

(d) The Decree regarding the iron industry provides for an autonomous body (the Iron Industry Association), composed of producers, employers, traders and consumers, to be placed under the supervision of the Reich Government. This Decree, however, is not in operation.

(e) The match industry was brought under control by the Law of 1927. The various undertakings combined to form a sales syndicate entitled the "German Match Sales Company" (Deutsche Zündholz-Verkaufs A.G.). The stability of this association was considerably enhanced by the stipulation that no new undertaking could be established, nor could the syndicate's articles of association be changed, without the permission of the Reich Minister for Trade and Industry. The Minister has the right to supervise prices. The main object of this procedure was to safeguard the home industry, which was suffering from over-production, against absorption by the international match trust.

To sum up, these organisations are at present subject in Germany to the following legal provisions, which are co-existent :

1. A number of provisions of ordinary law (civil, criminal and public law), some of which supplement while others supersede the Cartel Decree.
2. Certain special Decrees of public law which apply to individual branches of industry and exclude the applicability of the Cartel Decree from the branch in question.
3. The Cartel Decree itself.

III. CONTENTS AND PURPORT OF THE CARTEL DECREE.

[I assume that the text itself is already known, and will therefore consider only those provisions which are of special legal importance or which require special explanation.]

General Construction of the Law.

The law contains :

- (a) Substantive provisions (§§ 1-10, 16, 19) ;
- (b) Procedural provisions (§§ 11-15, 20) ;
- (c) Penal provisions (§§ 17 and 18) ;
- (d) A provisional clause (§ 21) valid only for a specified period.

Ad (a) *Substantive Provisions* (§§ 1-10, 16, 19).

The Decree applies—though it does not specifically say so—mainly to cartels based on “ agreements and decisions ” containing obligations regarding the management of production or sales, terms of business, methods of fixing prices, and claims in respect of prices. On the other hand, the only provision which applies to the so-called capitalist organisations is § 10, and that only to a limited extent.

In principle, the field covered by the Decree comprises all organisations in the nature of cartels, *i.e.*, organisations of producers, traders and consumers, and also the delivery and consignment of goods, and all branches of industry. The actual fact that the market is influenced by a monopoly is of no importance from the legal standpoint ; the decisive factor is, generally speaking, a policy which is clearly designed to influence the market. On the other hand, the Decree does not cover associations of employers or employees which relate purely to matters of social policy. These lie outside the scope of the Decree, although their exclusion is not definitely stated, as it is in § 6, section 4, of the Norwegian Law. The actual legal form of the organisation and the number of members are also immaterial. According to § 1, all that is necessary is an agreement containing the requisite terms. Moreover, the interpretation to be placed on this provision has to be determined, and a decision on that point is sometimes an essential preliminary step, since the competence of the Cartel Court depends upon it. Generally speaking, the only agreements which come into question are those which contain a legal undertaking and are designed to establish the obligations of a commercial company, *i.e.*, to secure a common end by co-operation. Thus individual agreements, such as exclusive clauses, do not necessarily come under the Decree, even if a number are concluded in identical terms.

On the other hand, organisations of any kind, even those relating to social policy, may come within the scope of the Cartel Decree if they take decisions within the meaning of § 1, since such decisions, being *independent* measures of organisation, are, under § 1, expressly assimilated to agreements. All reciprocal agreements between organisations of the kind covered by § 1 naturally also fall within the scope of the agreement, e.g., exclusive agreements between a cartel of manufacturers and its traders' organisation. Further, it is immaterial whether the cartel's activities are carried on in the home country or abroad, or both.

According to § 19, the Decree does not cover any associations the formation of which is provided for by law or decree. Similarly, it does not apply to terms of business or prices which are subject to the co-operation or control of the public authorities.

The provision of § 1 that the agreements and decisions to which it applies must be made out in writing (otherwise, according to § 125 of the Civil Code, they are void) is intended primarily to ensure publicity, in the absence of a register of cartels (for which the Cartel Decree does not provide), so that it should be possible at any time to ascertain the exact terms of these agreements. The aim of § 2 is to exclude purely moral obligations, which might hinder or prevent the enforcement of the Decree in consequence of the purely subjective nature of the compulsion they involve.

§ 3 invalidates agreements or decisions which hinder or frustrate the enforcement of the Cartel Decree or exclude the jurisdiction of the Cartel Court (e.g., by an agreement to employ exclusively some form of arbitration procedure). The cartels, however, are always careful to obtain expert legal advice, so that this provision is hardly likely to be of practical importance.

§ 4 is of decisive and fundamental importance, as it lays down the *basis* for the *supervision* to be exercised *under public law*, by the Reich Minister for Trade and Industry and, within his jurisdiction, by the Minister for Food and Agriculture (§ 16). The authorities cannot intervene unless an agreement or decision of the kind referred to in § 1, or a specific method of applying such an agreement or decision, endangers the national economy or the common weal—is, in fact, contrary to the public interest. The following circumstances in particular come under this head (the list given is not exhaustive; it is intended merely to indicate the main points): the restriction of production or sales in a manner not justified by the national economy, a corresponding increase of prices or maintenance of high prices, the inequitable restriction of economic freedom by the prevention of purchases or sales, and differentiation in prices and conditions.

The preventive measures which the authorities may employ are as follows: The Minister may:

- (1) Propose to the Cartel Court that the agreement or decision should be declared void or the particular method of applying it prohibited;
- (2) Order that every party to the agreement or decision shall forthwith cancel the agreement irrespective of its duration, or free itself from the decision;
- (3) Order that copies of all arrangements made or measures taken for the purpose of applying the agreement or decision shall be sent to him, and that such measures shall not come into force until after he has received the copy.

The provision laid down in (2) gives the administrative authority *independent powers, against which no legal remedy may be sought*, to intervene in relations coming under private law, with constitutive effect (*mit konstitutiver Wirkung*). The decision as to whether the circumstances are sufficiently grave to justify such a step lies entirely

with the administrative authorities themselves, who, however, are in all cases subject to supervision by Parliament, with whom the final decision lies. According to the principles of German administrative law, the courts, when taking a decision as to the justifiability of such procedure, may only determine whether the Minister acted within his competence, and cannot question the administrative necessity or expediency of his actions. The measure in question merely releases the parties concerned from the *obligation* to abide by the agreement or decision in question : it leaves them an option.

According to § 1, on the other hand, the most drastic form of intervention against the activities of cartels, *i.e.*, the legal cancellation of their agreements or decisions, must be left by the Minister to the decision of the Cartel Court ; the same applies to the prohibition of any specific method of carrying out agreements. According to § 7, the Cartel Court is not bound to apply these measures even if the Minister submits a request to this effect, but may decide upon the milder measures provided for under § 4, No. 2. If, however, it decides to annul an agreement, the scope of such nullification must also be specified.

According to § 5, the obligation in regard to organisation laid down in § 4, No. 3, may be enforced upon cartels against which a decision has been passed under §§ 4, 7, to apply *pro futuro, i.e.*, to any new cartel organised on the same or a corresponding basis as regards its personnel and its material composition, provided that, in those two respects, the new organisation is essentially a continuation of the organisation upon which judgment was passed. By this means, the cartellisation of individual industries can be brought under the permanent supervision of the authorities. Generally speaking, the censure implied by the intervention of the authorities is in itself sufficient to prevent the execution of the agreements or decisions concerned. As a rule, the authorities' action leads to negotiations with the parties concerned for a voluntary but binding arrangement to remove the points complained of from the agreement or from the programme of the cartel. In actual fact, the control—as in the case of the Federal Trade Commission—takes the form mainly of preliminary instruction and guidance by the “Kartell Referat” (Cartel Department) of the Reich Ministry for Trade and Industry. The severer measures prescribed by law rarely have to be applied.

§ 4, No. 3, provides the administrative authority with a basis for permanent control over the business transactions of suspected cartels. It takes the place of a *cartel register*, for which there has been a widespread demand, and also lays down an obligation as regards registration which is of a very exacting character, though it only applies to cases which are of a specifically serious nature. Nevertheless, it enables the authorities to keep under constant supervision the business policy of a cartel whose methods are open to criticism, and also by providing that measures taken by cartels are not binding until they have been notified to the authorities ; the latter are empowered to take preventive action under § 5.

Both the Minister (§ 6) and the Cartel Court (§ 7) may remove the authorisation of withdrawal (*Rücktrittsberechtigung*) (§ 4, No. 2) and the obligation to supply information (§ 4, No. 3, and § 5), if the conditions which gave rise to them subsequently cease to exist ; without retroactive effect, however. In the procedure of the Cartel Court this step amounts in practice to the reopening of proceedings, which takes place either officially or on the proposal of the Minister or of the cartel.

The provisions referred to above are undoubtedly in the nature of public law, since the Cartel Court must be regarded as a special administrative court ; views differ, however, as to the legal nature of the other substantive provisions of the Decree, namely, §§ 8 and 9 (§ 10, which also relates to trusts, is considered later).

§ 8 lays down regulations regarding *withdrawal without notice by individual members of a cartel*.

§ 9 introduces a *preventive censorship* of the compulsion exercised by cartels within their own organisation and outside it.

Withdrawal without notice for a grave reason (§ 8 of the Cartel Decree). — Every cartel agreement necessarily implies a more or less extensive limitation of the freedom of action of the individual members. This may apply to production (*e.g.*, rationing) and more especially to competition in the selling market, and may go so far as to include complete renunciation of the right to trade individually with clients, as in the case of selling syndicates. The limitation is prescribed in the agreement between the cartel and its individual members. But it also takes effect as between the members themselves, so that it is in the nature of *private law*. Thus, according to German law, cartel relations always correspond to those of a commercial company (co-operation for a common purpose), and accordingly the expert view taken, even before the Decree was issued, was that § 723 of the Civil Code should apply to *all* cartels, irrespective of any legal difficulties which might arise on account of the particular form chosen; as, for instance, in the case of limited liability companies. Similarly, a member may withdraw at any time for a grave reason. Grave reasons include, on the one hand, serious or deliberate infractions by another member of an essential obligation under the terms of membership, and, on the other hand, the fact that such an obligation can no longer be fulfilled. This right of withdrawal without notice is rightly regarded as an essential safeguard in view of the far-reaching nature of cartel obligations and the burden they may constitute for the individual member, the pressure of which is bound to vary according to circumstances and, in any case, cannot be foreseen. In this respect, therefore, § 8 of the Cartel Decree does not contain any legal innovation except that it confers an equal right in respect of all individual cartel decisions. It considerably extends the scope of the term "grave reason", however, which may now be said to exist whenever the economic freedom of action of the party giving notice is unfairly restricted, particularly as regards production, sales and the fixing of prices. In this respect, opinions differ as to whether § 8 should be regarded as relating solely to private commerce and as purely in the nature of private law, or whether it affects the national economy and thereby comes under public law. I take the latter view. Under the Cartel Decree, circumstances other than purely private ones may be adduced as evidence of a "grave reason" for withdrawal. Indeed, the effect of withdrawal on the part of an individual member of a cartel may be to throw considerable light on the importance of the cartel for the national economy, both in its positive and its negative aspect; so that the withdrawing individual member may also become, as it were, counsel for the public. In many cases, the real and subjective reasons for the withdrawal only become clear when the attendant circumstances are considered from the broad point of view of the national economy or the common weal. A strong argument for the claim that, under § 8, withdrawal is not of a purely civil character lies in the fact that there is no appeal from the decisions of the Cartel Court, which, with its specifically simplified procedure, is in the nature of an administrative court and has exclusive jurisdiction in these cases when § 723 is not applied by the ordinary courts, which have only to deal with certain cases of a civil nature arising out of § 723.

It is this special procedure alone which makes § 8 so *important for the national economy*. Besides the initiative which may be taken by the administrative authorities in combating undesirable cartels and their trade policies (decisions), it enhances the significance of any steps taken by the parties directly concerned, *i.e.*, the members

themselves, and gives them greater influence and powers of action precisely owing to this option of withdrawal.

§ 8 of the Cartel Decree, being a *lex specialis*, is thus of particular importance in substantive law as compared with § 723, and also as a substitute therefor; from the point of view of procedure, however, its importance would appear to be still greater.

A further proof that, from the substantive point of view, the Decree goes beyond civil law is that the statement of reasons accompanying the decisions of the Cartel Court on notices of withdrawal will make it possible to build up on a basis of case-law a code consisting for the most part of principles applying more specifically to *commercial law*, and these principles go considerably further than those laid down in previously existing judgments of a purely civil nature. I cannot give further details, but would refer to the reviews given in commentaries and the survey of judgments in the *Kartell-Rundschau* (Berlin), or the "Sammlung von Entscheidungen und Gutachten des Kartellgerichts", published by the Reichsverband der Deutschen Industrie (Berlin), and the systematic study of the subject by Councillor G. Breslauer in *Jahrbuch des Rechts*, 1928.

The fear that § 8 would have a disintegrating effect upon cartels has not been realised. On the contrary, impartial critics rightly point to the comparatively large number of notices of withdrawal which are disallowed, taking into account the fact that the majority of such cases are only brought before the court for decision when all previous attempts to reach an agreement between the parties have failed.

The civil courts have always found it difficult to establish case-law in this matter because it has been possible, and, in fact, has been the usual practice, to keep such cases out of the courts, since, before the Cartel Decree was issued, cases of withdrawal without notice (§ 723 of the Civil Code) were almost invariably submitted to arbitration. It is true that the ordinary judicial procedure affords less legal protection for parties desiring to withdraw, largely because proceedings in the three Courts of Instance were very protracted and costly, whereas in cartel cases, a prompt final decision is of the greatest importance to the parties.

Legal opinion rightly holds that, according to § 8, a decision as to whether a withdrawal is or is not allowable is of evidential and not of constructive value, *i.e.*, it takes effect *ex tunc* retrospectively to the time of the issue of the notice. Thus, in the interval prior to the court's decision, there is a period when the legal position of both parties is undefined. This situation is most undesirable for practical reasons connected with the cartel itself, and is often quite intolerable, as, for example, in cases where the cartel is bound to make deliveries to its clients or to receive deliveries from the member concerned. Relief may be obtained by means of an *interim order* to the effect that "the withdrawal shall not take place pending the decision of the Cartel Court", so that the party giving notice has to abide by his obligations towards the cartel (in accordance with the procedure of the court), but the effect of this remedy itself is disputed, since the Cartel Court has always declined to threaten simultaneously the imposition of penalties in opposition to the interim arrangement under civil procedure. Further, the right of the defendant to obtain a provisional order from an ordinary court defining the position of the parties in the interim period is also disputed. Individual civil courts have asserted their jurisdiction and issued such orders on the ground that the exclusive jurisdiction of the Cartel Court prescribed in § 12 of the Cartel Decree only relates to the decisions expressly reserved to it by the Decree.

For the general purpose of expediting the procedure as far as possible, however, the Cartel Court or its President makes wide use of its power to arrange a *preliminary*

hearing before the judge dealing with and reporting on the case. In this way, it is possible to obtain evidence more rapidly, more particularly regarding the *commercial* facts upon which the dispute generally, if not invariably, hinges. Moreover, it is often possible to *settle* the whole dispute by an agreement reached in court. As a rule, proceedings before the Cartel Court last for two or three months. At the same time, the vast majority of cases are very complex because, as already stated, the hearing before this court has generally been preceded by attempts at private settlements, usually by a conciliation board appointed by the parties. Generally, the parties are reluctant to appeal to the Cartel Court, as they regard it as a tribunal established under the Law for the Supervision of Cartels (Kontrolgesetz). These boards, whose procedure is explicitly laid down, have also attained a certain degree of authority through the fact that suitable cases are referred to them by the Reich Minister under § 14 of the Cartel Decree.

The option of repudiating *individual decisions of cartels* provided for in § 8 has had little practical effect. This is only natural, since, in the first place, a partial repudiation of this kind invariably leads to an almost intolerable relationship between the cartel and the repudiating party, and, in the second place, because the circumstances will be such as to render such decisions very rare. Thus, if an individual decision clashes with the vital interests of the member who unsuccessfully opposes it, the member will in self-defence go to the length of repudiating the agreement itself.

For that reason it must be borne in mind, as regards the legal protection afforded against measures which form a part and not the whole of the policy of a cartel, and also § 8 as a whole, that it is intended to enable *every individual member* to exercise a permanent, independent and extensive influence on the policy of the cartel, and this influence itself undoubtedly offers very real protection against discriminatory or excessive measures in the application of the cartel *policy*. Thus, even if § 8 is *de jure* regarded as purely in the nature of private law—a view which I have already rejected—it offers in practice an *effective means of reinforcing public control*. It might even be argued that in this way a kind of “cartel police force” is established in the body of the cartel itself through the strengthening of the economic ambitions of the individual members.

The German Cartel Decree is justified by economic circumstances and is, in any case, conditional upon the validity of the cartels themselves, and is only intended to remedy sporadic abuses; it is important, therefore, even as regards notices of withdrawal based on § 8 of the Decree, to separate the chaff from the wheat, *i.e.*, to reject unjustifiable notices of withdrawal in the interests of the cartels.

The Cartel Court is thus faced with a very difficult and very important task. Experience shows that that task can only be carried out by a special Court and—despite the view taken by the Salzburg session of the Jurists' Association—this is the opinion held by an overwhelming majority among public authorities and among those having a theoretical and practical knowledge of the subject. (The question of procedure is considered below.)

The same also applies to § 9 of the Cartel Decree, which provides for *preventive censorship* by the President of the Cartel Court in regard to the imposition of boycotts and similar measures and to the realisation of securities. As a ground for refusal, in addition to the *private* ground of an unfair restriction of the economic freedom of the party concerned, the *public* ground of endangering the general economic situation or the welfare of the community is expressly recognised. § 9 is thus given importance from the point of view of public law. In this case also, only general principles are laid down for guidance in passing judgment and they have to be explained and interpreted in judging individual cases.

This administrative control of the compulsion exercised by organisations within their own limits and outside them has, with § 8 of the Cartel Decree, been the measure which hitherto has had the most far-reaching practical consequences. This will be readily understood in view of the importance corporate constraint as a protective weapon of cartels, and especially, in the case of Germany to-day, owing to the growing need for cartel protection on the one hand, and to the increased difficulties of cartel policy on account of the general deterioration of the economic situation on the other hand.

Here also the Cartel Decree has avoided giving a concrete definition of the sphere of control. The Cartel Court has been obliged to evolve its own interpretation of the term "boycott" or "similar disability", and understands by these expressions all measures calculated to cut off a single economic unit or group of units from their usual current of business, or materially increase their difficulties in this business by means of discrimination in prices or commercial conditions, so that their economic position suffers considerable detriment. The expressions, therefore, also include the granting or refusing of a "goodwill reduction" or of "turnover bonuses", etc. It is often difficult to define the expression "imposition" and to determine, for the purpose of preventive censorship, the moment at which these measures came into force, when no single concrete resolution exists, but the measure is the result, for example, of the automatic operation of an exclusive agreement. The Cartel Court has not hitherto regarded as a measure requiring the exercise of the censorship an agreement, for example, between a producers' cartel and a traders' cartel, allowing only members of the two parties to carry on trade and thus excluding third parties. It attaches more importance to measures narrowed down to definite economic branches, which can, however, consist in the sending of a "black list" to the opposing association. In the Cartel Court's view, too, a boycott is not considered to exist only against undertakings already established, but is constituted by the attempt of a cartel to create a monopoly in a particular branch of industry by suppressing new competition through refusal of admission to the cartel, involving exclusion from a monopoly trade. The measures taken by a *selling syndicate* may also be regarded as a boycott. For a syndicate which alone deals with the market and does not allow its members to do so acts like an individual trader, usually in the legal form of an incorporated or limited liability company. But when individual third parties are shut out, it is necessary to assume a measure of *cartel policy*, *i.e.*, a measure taken in the interests of the members until proof is provided to the contrary.

By the term "securities" in § 9 is meant all objects given into the keeping of the cartel by the members, in virtue of the cartel agreement, to cover claims of the organisation against the member, *i.e.*, in most cases to serve as security for fines, as a rule imposed by decision of the authority designated for this purpose in the Statutes. These deposits therefore usually consist of securities, foreign exchange or debt acknowledgments.

The purpose of § 9 is evidently to prevent abuses on the part of the cartel authorities, by examining the justification for the proposed measures. Unless approved in conformity with § 9, a measure of this kind is devoid of all legal validity. No such protection was provided by the civil judicature. In response to a petition for restraint or compensation under §§ 823 and 826, and under § 138 of the Civil Code, all that it could do against a threat or damage (already existing as such) to the party concerned was to prohibit the measure from being proceeded with or to provide compensation for the damage. The judgment was passed on civil law grounds, as we have already stated above.

Under § 9 of the Cartel Decree, on the other hand, the judgment must also take into consideration the point of view of the general economic interest and of the public

welfare, and thus apply a considerably more comprehensive public law standard. But even the point of view of an unfair restriction of the economic freedom of the person suffering from the "boycott" is not to be judged on purely private law grounds. This is made clear by the express definition given in § 4, paragraph 2, of the Cartel Decree. Here barriers which unjustly hamper economic freedom are expressly included among the factors endangering the general economic interest and the public welfare. This appears to be justified, not only on the ground that, as previously indicated, *voluntary* association is in keeping with the principle of "*industrial freedom*" on the basis of the principle of "*freedom of contract*", but also on the ground that economic measures of compulsion against third parties, in so far as they are not of a defensive character, cannot be regarded as compatible with the latter principle. Thus, by means of the current jurisprudence of the Cartel Court, definite legal principles can gradually be built up to govern the compulsion exercised by the cartels, and these principles will no longer be based predominantly on purely commercial considerations, but will also take into account the *general principles* of national economic policy. The authority competent in the first instance to grant or to withhold permission is the President of the Cartel Court or, in the event of only individual States or parts thereof being affected, an authority designated by the Minister of Economics of the Reich, in agreement with the State Government concerned—one of the few concessions made by the Cartel Decree to the federal character of the Reich. Appeal can be lodged against this decision within one week by each of the parties, *i.e.*, either by the cartel or by the person boycotted.

Here, too, as in the case of notice of withdrawal under § 8, the decision can only be affirmative or negative. No opportunity is provided for passing a *detailed* decision, *i.e.*, no conditions or injunctions, for example, can legally be attached to the judgment. This is to some extent a drawback, since in many cases the circumstances are such that a decision going into the facts would be more expedient, as it would have a constructive influence on economic conditions and thus help both parties. In dealing with this defect of the law, the Cartel Court, by holding *preliminary hearings* in connection with notice of withdrawal, has helped to introduce the practice of a constructive settlement in the interests of both parties by means of judicial conciliation. As regards boycotts, it has, although only in individual cases, added clauses (for example, in Decision K. 193-27 of November 8th, 1927, the boycott is only approved until such time as the person boycotted has fulfilled the condition attached by the cartel to his reinstatement.) The effect of the refusal of a boycott in virtue of § 9 is, from the point of view of civil law, that its application becomes absolutely illegal. The civil courts are bound by the decision of the Cartel Court (§ 12 of the Cartel Decree). § 9 is a statutory provision intended for the protection of others in the sense of § 823, paragraph 2, of the Civil Code, and an infringement thereof involves the duty to make compensation, quite apart from § 826 of the Civil Code. The tendency of some commentators on the Cartel Decree, and also of various civil court judgments, is to leave the person concerned free to make petitions for restraint and compensation independently of the procedure provided under § 9. These alternative modes of procedure, however, do not seem expedient either from the legal or from the practical point of view, since such duplication of judicature may easily lead to contradictions detrimental to the prestige of the law.

As regards the realisation of securities—which, as a matter of fact, should, from the point of view both of substantive and of procedure law, be treated in the same way as boycotts—it should be pointed out that the imposition of conventional penalties should not be regarded as equivalent to the realisation of securities, and therefore, according to prevalent opinion, they are not subject to censorship under § 9.

A distinctive position in the system of the Cartel Decree is occupied by § 10, since, first, it expressly includes with cartels, etc. as the only exception—*individual undertakings and combinations* of such undertakings, *i.e.*, trusts, associations of interests and “similar combinations”; and, secondly, it only applies to specific trade abuses, namely, *commercial conditions* detrimental to the community and similarly detrimental *price-fixing methods*. On the proposal of the Minister of Economics of the Reich, the Cartel Court can grant the injured contracting parties a general right of withdrawal from all contracts concluded under such conditions, but it can also grant only a restricted right of withdrawal from the conditions or price agreements objected to, the other clauses of the contract being maintained. Withdrawal is only permitted in respect of the unfulfilled portion of the contract (in the case of deliveries in instalments). The right of withdrawal must be exercised within two weeks of the published notification of the decision—the only case of official publication provided for in the Cartel Decree—otherwise it lapses. Disputes regarding the extent of the right of withdrawal, or the complete or partial nullity of contracts—in the case of new contracts which were concluded under the conditions objected to after the official publication and despite the verdict published therein and which must therefore be regarded as partly or wholly void—are decided by the civil courts.

These injunctions may, at the instance of the Minister of Economics of the Reich, be also officially cancelled or amended by the Cartel Court if the reasons for the decision subsequently cease to exist. The new decision will have to be duly published and will naturally have no retrospective force.

These decisions under § 10 are to be regarded as a prohibition of such contracts under public law. Under paragraph 134 of the Civil Code, juristic acts which are contrary to a statutory prohibition are void.

According to the text of § 10, it applies to all individual enterprises independently of their size or legal status, and further to all kinds of corporate associations (including leasehold associations and the like), to communal and mixed economic undertakings, and, lastly, even to State enterprises as long as they are run on a purely commercial basis and are therefore not subject to § 19 of the Cartel Decree.

A condition of the application of § 10 is, however, always, the exercise of a position of economic power. There must therefore always be at least a *relative* monopoly involved (*e.g.* a patent monopoly, which in practice is the most frequent case). Naturally, too, this section only applies to the sphere of economic obligations. Lastly, the contracts in question must be of general application, *i.e.*, they must be *typical* business contracts and not individual special agreements. The latter can already be declared void as *contra bonos mores* under paragraph 138 of the Civil Code; § 10, on the other hand, is directed against the general misuse of economic power.

As regards the kind of abuses dealt with, this clause only refers broadly to “commercial conditions” and “price-fixing methods”, but the reference is sufficiently specific to be applied to concrete circumstances. Generally speaking, circumstances of the second kind, as they do not refer to the prices themselves, but, for example, to an agreement on a rate of exchange clause, or possibly also to inadmissible bases of calculation, are of rare occurrence. Commercial conditions, *e.g.*, the refusal of the legal right of appeal for defects, an agreement regarding an excessively wide right of retention and similar one-sided protective clauses of benefit only to the dominant market factor, may, however, very well have a broader significance.

All disputes arising out of the decision of the Cartel Court regarding the withdrawal itself and its consequences—and these, in virtue of the civil law provisions regarding withdrawal from contracts, may be very numerous—have to be decided,

as already mentioned, by the ordinary courts or, upon agreement between the parties, by courts of arbitration.

Far-reaching though the effect of this § 10 may appear from the legal point of view, its practical consequences are not so great as might be anticipated. It must be remembered that the protection afforded here can only be effective against the monopolistic trust undertaking when accompanied by a *de facto* compulsion to deal with the trust under appropriate conditions. In principle, however, such compulsion is not recognised in German civil and commercial law, since it is regarded as in contradiction with the freedom of contract and manufacture. On the other hand, as already mentioned, such an obligation is recognised by the Supreme Court of the Reich, although in a very cautious manner. When a case involving the application of § 10 of the Cartel Decree has to be examined, the competent ordinary courts therefore have to give the matter very careful consideration.

Ad (b) *The Procedure of the Cartel Decree* (§§ 11-15 and 20). — This is based on the above-mentioned sections and on a special executive decree issued at the same time as the Cartel Decree.

In so far as the Minister is not authorised to take direct action (§ 4, § 1, Nos. 2 and 3, §§ 5 and 6), rules are laid down for the application of the Cartel Decree by means of proceedings before the *Cartel Court* acting as a *special* administrative court. This Court was set up at Berlin at the same time as the Cartel Decree was passed, and was attached to the Economic Court of the Reich (also a special court created in connection with the war), not, however, as a part of this Court, but rather as an independent supreme authority against whose decisions there was no appeal. It is an administrative court, not a court of civil law, and is under the Ministry of Economics, not the Ministry of Justice. At present, its permanent members are one President, two Substitutes and four Economic Councillors. Decisions may be taken with a quorum of five members, consisting of two permanent members and three lay assessors, who are specially appointed by the President for each lawsuit from a list, drawn up and supplemented by the Ministry of Economics, of recognised economic experts and eminent public personalities. Two assessors are appointed to represent the interests of the two parties in the case, and the third to represent the public welfare.

This system of lay assessors has been severely criticised, chiefly because it is alleged that these assessors are not sufficiently impartial. Admittedly, in individual cases, the composition of the Court may give rise to personal difficulties, as the list may not be adequate for all cases. On the other hand, the impartiality of these assessors who may be regarded in the same light as jurymen and are sworn in like them, is above suspicion. The purpose of their appointment as representatives of the conflicting economic interests is to obtain as expert as possible a view of the two sides of the case, *e.g.*, of the standpoints of industry and wholesale trade. The third assessor, on the other hand, is intended to be a person who, owing to his special knowledge or public station, is in a position to form a comprehensive view of the significance of the case from the standpoint of the general economic interest and the common weal and to represent this point of view.

As regards the *refusal* of assessors to serve, the rules of civil procedure of the Reich apply, individual cases being decided by the President and two assessors of the Cartel Court acquainted with judicial procedure. The office of temporary assessor is a voluntary one. There is no obligation for the parties to be represented by advocates, but in practice they generally are so represented.

The procedure is an official one, and takes the form of verbal and non-public proceedings. The judgment is, as a rule, announced verbally, with a short statement

of the reasons, but is communicated to the parties in writing with a detailed statement of the reasons. It is not subject to appeal. The amount of the costs of the proceedings, *i.e.*, of the court fees and out-of-court costs, and their distribution, is decided finally by the President at his discretion. In some cases, no court fees may be charged. These fees are usually much lower than those of ordinary courts of the same standing. The proceedings usually take place at Berlin but, in exceptional cases, the verbal proceedings may take place at other localities for reasons of convenience.

In certain cases (apart from that dealt with in § 9, in which he *must* decide), the President, under § 13, may take the decision on his own authority. Such a decision may be appealed against to the Cartel Court within three days of notification.

Under § 12, the competence of the Cartel Court is an exclusive one, *i.e.*, it cannot be set on one side by an agreement between the parties. The ordinary courts and the courts of arbitration are obliged to recognise this competence officially without any request by the parties, *i.e.*, in certain cases, to discontinue proceedings, and they may not pronounce decisions, even incidentally, on questions belonging to the exclusive competence of the Cartel Court. The competence of the Cartel Court is not, however, exclusive from the point of view of substantive law, since it applies only to the subjects expressly assigned to it under §§ 4 and 7, §§ 10, 9, 8 and 17, or to subjects obviously belonging to its jurisdiction owing to the attendant circumstances.

Apart from decisions regarding the questions of procedure referred to in §§ 1-3, the ordinary courts are also competent in regard to all the legal consequences following upon notice of withdrawal, declaration of nullity or withdrawal from contracts and resolutions, or, again, upon the modification or cancellation of decisions of the Cartel Court, as also for the consequences of boycotts.

§ 12, however, gives the decisions of the Cartel Court a wider scope, in so far as it provides that the ordinary courts must discontinue a procedure if "the decision wholly or partly depends upon a circumstance regarding which the Cartel Court is competent".

In so far as the parties may make applications on their own account to the Cartel Court, as under §§ 8 and 9, they are able, by an appeal to the Cartel Court, to interrupt the proceedings of the ordinary court (or court of arbitration) for the purpose of having an important preliminary question decided by the Cartel Court. If such an independent right of appeal does not exist, as under § 4 (1) and § 10, sub-paragraph 1, in which the Minister is entitled to make the application, the subsequent special provision takes steps to make the protection of the cartel law accessible to parties in civil cases: "Those taking part in such a lawsuit shall have the right of independent appeal to the Cartel Court if the Minister of Economics of the Reich has refused to make such an application, or has not made this application within two weeks of a petition to this effect."

Abuses of the legal protection of the Cartel Decree, *e.g.*, by means of the obstruction of civil law judgments, which might in particular be attempted under § 10 of the Cartel Decree, can be countered by the use of suitable methods of procedure, *e.g.*, by the fixing of a short time-limit for the decision of the Cartel Court by the civil court which is suspending proceedings.

Although no material injustices have been found to result from the delimitation of competence in force, there is yet a danger of overlapping, if not conflicting, proceedings on the part of the civil courts and the Cartel Court, and this should be made impossible, in the interests of justice and of the prestige of the courts, by a revision of the Cartel Decree.

In § 15, another concession to the federal character of the Reich is made by allowing the State Government to exercise an influence on the supervision of cartels

by asking for the intervention of the Minister of Economics of the Reich. If an application is made for a direct intervention under § 4 (1) or § 10, the Minister is obliged, if he does not comply with the request within two weeks, to lay the case before the Cartel Court on the further application of the State Government.

Of considerable assistance to the central administrative authority in pursuing a uniform cartel policy is § 20 of the Decree, which provides that the Cartel Court or its President should pronounce an advisory opinion on certain special questions relating to the subject-matter of the Cartel Decree submitted to it by the Minister, and that for this purpose it should also consult, at the Minister's request, leading economic associations of industry, wholesale and retail trade, handicrafts, and agriculture. Several such advisory opinions have already been pronounced and may serve to guide, not only the Administration, but the court itself in its future work.

Ad (c) *Penal provisions* (§§ 17 and 18).—The Cartel Decree provides for two kinds of penalties referring to two different classes of offences.

§ 17 provides *disciplinary penalties* against those who *deliberately* contravene certain provisions of the decree, *e.g.*, the provisions of §§ 1-3, §§ 7, 9, sub-paragraph 7 (concerning the nullity of contracts and resolutions), or provisions pronounced in virtue of the Cartel Decree, such as § 4, sub-paragraph 1, No. 3, and § 5 (registration of all agreements concluded with a view to the application of contracts and resolutions), § 9, sub-paragraph 1 (imposition of boycott without the consent of the President), and § 9, sub-paragraph 6 (restitution of members' securities). The penalty is a fine of unspecified amount, to be fixed by the Cartel Court by the ordinary procedure, at the instance of the Minister of Economics of the Reich (so far, there has been one case of a fine of 50,000 Reichsmark).

§ 18, on the other hand, is intended to defend those who make use of the protective rights provided by the Cartel Decree against those who endeavour to prevent them from exercising these rights by causing them economic damage. Here we have, therefore, provisions aiming at "constraint", and penalties in the way of fines and imprisonment are provided and are applied by means of the ordinary penal procedure.

Conclusions.

It is not for me to give here a critical estimate of the decree. The German Jurists' Congress at Salzburg, mentioned above, has already given us a comparatively detailed criticism. Its reform proposals depart very considerably from the system existing under the Cartel Decree. While the Cartel Decree, both as regards substantive law and procedure, has provided for an independent and autonomous administrative supervision—applicable, however, in the main only to cartels—the Jurists' Congress desires, in the first place, to transfer the two vital clauses—§ 8 (notice of withdrawal without time-limit) and § 9 (preventive censorship of cartel compulsion)—once more to the civil judicature and thus restore the position to what it was before the Cartel Decree. In the second place, the Ministry of Economics of the Reich is to have still more comprehensive supervisory powers, but with the limitation, which does not exist to-day, that it will have a *Committee of Experts* attached to it. The *Cartel Court* is to lapse, its duties being transferred to the proposed Reich Administrative Court, but only to the extent of the general principle followed in German administrative law that it can act as a court of appeal for the examination of the correctness of administrative measures, not as regards substance, but only as regards form. On the other hand, there is a strong current of public opinion which views the present supervision as not yet sufficiently far-reaching and which would like to see it replaced by an independent *cartel office* acting as an administrative and arbitration authority, with the Cartel Court as a court of appeal.

HUNGARY.

REVIEW SUBMITTED BY DR. TSCHIERSCHKY.

[*Translation.*]

Like Austria and Czechoslovakia, Hungary has no special legislative regulations relating to this economic field. Hungary did not adopt § 4 of the old Austrian Law regarding Combination, which renders cartel agreements legally inoperative. It is doubtful whether the Law of 1884 (No. 17, § 162)—the Hungarian Industrial Code—(which corresponds to §§ 2 and 3 of the Austrian Law regarding Combination) can be applied to cartels, as it refers to the inadmissibility at law of organisations engaged in the social struggle (employers' associations), and its express application to agreements in the nature of cartels (§ 4 of the Austrian Combination Law) has not been taken over (see NADAS : " Hungarian Cartel and Knozern Legislation ", Berlin 1928, and HEXNER'S " Principles of Czechoslovak Cartel Law ", Berlin, 1929). Generally speaking, however, cartels have, since 1914, been regarded by jurists as legitimate, in so far as the policy they pursue is not contrary to morality or public order, as it would be, in particular, if an attempt was made to secure a monopoly of the markets. Article 174, No. 4, of the Commercial Code mentions cartels in connection with the clause providing that the conclusion of cartel agreements designed to secure, in the public interest, uniform administration of all the businesses concerned shall be decided solely by the general meeting. This is, however, a protective measure in the law relating to shares which, according to legal doctrine, is not capable of an interpretation whereby it could be extended to cartels in general. The criminal law prohibits the formation of cartels for the submission of tenders for public contracts (§ 128 of the Penal Code of 1879). It also contains an Ordinance of 1920 against the artificial raising of prices (Law XV § 1), which cannot, however, be applied to cartels.

§ 1 of the Law of 1923 against unfair competition might, to a certain extent, be regarded as constituting a rule of public law applicable to the organisation of cartels. The competent arbitral tribunal of the Budapest Chamber of Commerce and Industry stated in this connection, in its Decisions L 178-3 of 1925 and J 32 435 of 1907 (NADAS, *loc. cit.*, p. 28), that neither the fixing of prices by means of cartel agreements with a view to taking the fullest advantage of the possibility of profit nor sales below cost prices were to be regarded as contrary to commercial and public morality, provided that the adoption of such a policy did not lead to a falling-off in the quality of the goods, or non-observance of prices quoted, or any other action inconsistent with honourable business principles. The question is dealt with by civil law from the general point of view of morality and public policy, which point of view has been adopted in the new draft Civil Code, and is of particular importance with regard to the question of what constitutes undue pressure for purposes of organisation. There have not been many decisions on the subject given in the ordinary courts. These, however, have been dealt with at length in the two above-mentioned works. This small number of decisions is also due to the extensive resort to arbitration : the official arbitral tribunal of the Budapest Goods and Securities Exchange has, in particular, given several very interesting decisions with regard to the question of cartels (see NADAS'S list, *loc. cit.*, pp. 44 and following). Cases admitted to private arbitration can apparently

only be brought before the ordinary courts (actions for nullity) on account of defects of form, § 784, No. 7, of the Civil Procedure Code, simply providing, so far as substance is concerned, for grounds of nullity which arise in connection with arbitral awards.

Moreover, cartels, in so far as they are organised in the form of associations, must have their statutes approved (Decrees of 1873, 1875 and 1898). Any cartel can be dissolved when it contravenes binding legal provisions. With regard to their internal organisation, cartels are subject to civil law.

The cartels are, as trading companies, subject to the Registrar's Court, which for the most part, however, exercises only formal supervision. It should be observed in this connection that in Hungary the cartels do not take the legal form which is most general in Germany and elsewhere for highly organised cartels; namely, that of limited liability companies.

Under Hungarian law, moreover, the application *mutatis mutandis* of § 100 of the Commercial Code allows of denunciation of cartel agreements for urgent reasons before the expiry of the time-limit.

Before the war—in 1904—Dr. P. Mandel was entrusted by the Ministry of Commerce with the work of framing a special detailed Cartel Bill (published in the *Kartell Rundschau*, 1904), and in 1925 the Ministry of Justice was entrusted with the detailed study of the legislation of foreign countries and the preparation of a Bill. On April 10th, 1929, after full discussion of the question, the Prime Minister spoke of the probable introduction of a Bill of this kind. Finally, the Economic Society and the Institute for Economic Law of the Hungarian Jurists' Association have been recently engaged on thorough investigations with regard to this question.

ITALY.

REVIEW SUBMITTED BY M. HENRI DECUGIS.

[*Translation.*]

In Italy, the constitution of cartels, agreements, trusts and other industrial groups designed to regulate production and selling prices is not subject to any special legislation. The provisions of the Civil and Commercial Codes constituting the ordinary law of contracts are therefore applicable to them.

These groups or agreements may, according to circumstances, take the form of commercial companies governed by the Commercial Code or of contracts without any particular denomination, as provided for in Article 1103 of the Civil Code.

If their object is an illicit one, they come under Articles 1119 and 1122 of the Civil Code relating to illicit obligations.

There is no administrative or judicial organ to control or supervise the working of such bodies, and they are not required to comply with any special formalities as regards publicity.

The Government, however, has often tried to combat the high cost of living by exercising control over prices, particularly retail prices.

The steps taken have not, it is true, been directed specially against combines of producers or sellers; at the same time, all taxation and other means employed to prevent the cornering of supplies and the excessive raising of prices must be taken into account and examined, since they might be employed against any combines formed to bring about fraudulent alterations of prices.

During the war, prices of foodstuffs and articles of current consumption were strictly regulated by the Government.

After the war, an attempt was made to re-organise the control of prices by the Law of September 30th, 1920, which instituted provincial boards of arbitration to carry out enquiries into the prices of raw materials and articles of common consumption and to give awards regarding prices in disputes between sellers and producers.

These boards of arbitration were thus vested with what amounted to judicial powers. Appeals could be made to them for decisions, and they could impose penalties sometimes even involving the provisional closing of offenders' premises.

The Law of 1920, however, did not produce the results expected of it, and it was annulled by a Decree-Law of January 11th, 1923.

The rise in home prices continued, despite the general administrative measures which were taken to lower cost prices by alleviating taxation and reducing railway and postal rates, etc. The excessive increase in the number of businesses, speculation in foodstuffs, the unduly high cost of transport, and the rise in rates of taxation were in all quarters adduced as the chief causes of the rise in the cost of living.

The Ministry of National Economy made a fresh attempt to combat the high cost of living by means of the Decree of December 15th, 1926, which established municipal supervisory boards to grant trading licences. The effects of this decree were almost nil, however, and after a year it was annulled.

It may therefore be assumed that Italy has now reverted to the ordinary law, as far as the control of selling prices and the supervision of industrial or commercial agreements are concerned.

On this subject, the Italian Criminal Code contains a number of provisions framed on similar lines to those at present in force in France and Belgium. Although they are not directed especially against cartels of producers or traders, they are nevertheless applicable to such groups whenever the latter are employed to commit the offence of fraudulently altering prices or using force or threats to hinder freedom of trade.

According to Article 165 of the Italian Criminal Code :

“ Any person who in any manner whatever restricts or hinders freedom of trade by means of force or threats shall be liable to imprisonment for not more than twenty months and a fine of not less than 100 and not exceeding 3,000 lire.”

This clause enables penalties under the Criminal Code to be imposed if competitors are threatened with a trade boycott for refusing to be amenable to the discipline of a cartel of producers or traders.

The offence of fraudulently altering prices is punishable under Article 293 of the Criminal Code, which reads as follows :

“ Any person who, by disseminating false news or by other fraudulent means, causes in the public market or on commercial exchanges an increase or reduction in wages or salaries or in the prices of provisions or goods or of securities negotiable in the public market or quotable on stock exchanges, shall be liable to imprisonment for a period of not less than three and not exceeding thirty months, and a fine of not less than 500 and not exceeding 3,000 lire. If the offence was committed by stockbrokers or stockjobbers, the penalty shall be not less than one and not more than five years' imprisonment, the guilty parties being temporarily forbidden to engage in their occupation or to carry out public functions, and the fine shall be not less than 1,000 lire.”

This article makes no mention of coalitions of producers or traders. It is therefore not directed especially against industrial and commercial agreements ; if, however, such agreements lead to the use of fraudulent means to raise or lower prices on the public market, the members of the group are individually liable to the penalties prescribed in Article 293.

It should be noted that the article does not render a mere attempt at the offence punishable, and in this respect it differs from Article 419 of the French Criminal Code and Article 311 of the Belgian Criminal Code. Moreover, its sphere of application is restricted to goods and securities negotiable in public markets, that is to say, on commercial and stock exchanges.

Apart from criminal law, industrial agreements are also governed by the ordinary law on commercial contracts.

In this matter, Italian courts allow the distinction between “ good and bad trusts ” which is to-day general and recognised in most countries,

By a Decree of May 26th, 1903, the Naples Court of Cassation recognised the aims of associations or syndicates as lawful, if they are designed to protect their members against abuses or irregularities on the part of trade competitors.

The Turin Court of Cassation, in an Order of July 12th, 1908, recognised the validity of an agreement to fix the price of bread so as to protect retailers by maintaining sufficiently remunerative selling prices without, however, constituting a monopoly to combat the legitimate rights of consumers.

It should be observed, on the other hand, that the Law of April 3rd, 1926, and the Royal Decree of July 1st, 1926, contain clauses prohibiting strikes and lock-outs.

Lastly, the emigration law forbids shipping undertakings to conclude agreements to raise passenger fares above the officially authorised rates.

Recently, however, the Italian Government has given official encouragement to industrial agreements in Italy designed to rationalise production and lower cost prices and therefore selling prices as well.

Thus, on the Government's suggestion, the two shipping companies Lloyd Sabaudo and Navigazione Generale Italiana concluded an agreement to build and run jointly two 40-thousand ton liners for the North American traffic. More recently, Italian metallurgists have concluded among themselves an agreement which is virtually tantamount to a selling cartel.

The Italian Government, however, views international industrial agreements with definite disfavour. It considers that the rationing which is the outcome of such agreements may have the effect of rendering the existing situation permanent and stabilising Italian production, whereas it desires to see a great increase of the latter. Nevertheless, the *Snia Viscosa* has entered the European artificial silk cartel.

Further, as a consuming country, Italy is hostile to any agreements made outside the country in respect of products which she buys abroad. This general hostility, however, cannot affect the internal legislation on the subject.

No law has so far been passed to empower the Italian Government to impose compensatory Customs duties to combat international dumping.

NORWAY.

(*Norwegian Law of 1926.*)

REVIEW SUBMITTED BY DR. TSCHIERSCHKY.

I. History.

[*Translation.*]

The Law of March 12th, 1926, derives its origin from a proposal made by the Government in 1913 to set up a committee to study measures for the purpose of preventing the abuse of cartels and trusts. Owing to the world war, this committee only started work in 1916, and bore its first fruits in a law enacted in 1920 on the *notification and registration of combinations formed for the purpose of regulating competition*. The interesting fact was revealed that there existed within the comparatively small area of Norway about 470 associations subject to control, and 58 undertakings having the character of monopolies. The control was entrusted to the "Preis Direktoratet", a price-control office established in 1917 to avert the economic consequences of the world war. A number of laws enacted furnished the Administration with the means of regulating prices.

These provisional regulations were intended to be replaced by a more detailed law. A Bill of 1924, appreciably weakening the effect of the committee's proposals, was succeeded in 1925 by another Bill, which was placed on the Statute Book by the Government of the Left that had been formed in the meantime.

II. Contents of the Law.

Note.—I shall assume that the text of the law is known and shall only give the substance of its various clauses. As far as possible, I shall each time compare this law with German legislation.

A. Substance of the Provisions.

The scope of the law (§ 1) extends to (measures to prevent) the improper manipulation of prices and the control of restrictions on competition, and it is applicable to both private business enterprises and such prosecuted by the municipalities. The expression "business enterprises" must be widely interpreted as including also what are called the liberal professions; for example, engineers, doctors, dentists, etc. The law expressly excludes "work in the service of others", that is to say, wage labour. This exclusion of wage labour, as opposed to the activities of merchants and industrialists, who are subject to control, independently of all delivery of goods, is explained in greater detail in § 6 (4), which exempts from compulsory notification "combinations, agreements and arrangements whose sole purpose is to regulate wages or other conditions of work". (The German law does not make this express exception, but it may be taken as existing in practice to the same extent.)

Details as to the economic organisations subject to the law are contained in §§ 6 to 9, which mention the organisations subject to compulsory notification and

prescribe a *general obligation to make this notification* as the *legal basis* of administrative control. In general, this obligation extends in the first place to :

(1) Combines which have taken steps or desire to take steps the intention of which is to settle prices or conditions of production and marketing in so far as these combines are of importance to the national market. The term would therefore appear to include in the main all organisations customarily known as cartels. It may exclude combines of negligible importance to the home market, such, for example, as purely local combines or those with a circumscribed and temporary object.

(2) *Agreements* or *arrangements* serving the purpose or having the effects mentioned under (1). According to the interpretation of this law, it (1) covers all combines, etc., which have their own direction ; all others are covered by (2).

The organisations, therefore, are much the same as those enumerated in § 1 of the German Cartel Decree.

(3) In addition to the foregoing corporate or collective influencing of markets, the law also covers certain *individual enterprises*, in so far as their activities exercise an important influence on the prices of the goods or services concerned in the market or essential parts thereof. Accordingly, the provisions of the law apply to all individual *entrepreneurs* to whom the conditions mentioned apply, by which is meant, of course, not only individuals, but also, and even principally, companies of all kinds.

(4) Finally, individual traders who are owners or managers of a business which are under the influence of foreign undertakings or combines, whose influences upon the prices of the goods in question are of vital importance in one or more countries, are expressly subject to compulsory notification.

(5) A special system of control is further prescribed for large-scale undertakings in the form of joint-stock companies (with a capital or assets of at least one million crowns and also other joint-stock companies if the control board has ordered it), including even *foreign* undertakings, provided they come under § 6. Only banks and insurance companies are excepted. Companies subject to compulsory notification must every year submit to the Office a statement of the results of their financial year, including a profit-and-loss account and a balance sheet ; these must be submitted within 14 days of the date on which the annual accounts are approved in conformity with the statutes. For purposes of verification, and obviously too of comparison, the Council of Control may even prescribe a uniform model for these annual accounts.

In practice, therefore, this compulsory notification is quite general, since it applies both to collective formations and such individual enterprises as play an important part in the market. It constitutes the *basis* of registration, regarding which the Office of Control has to take a separate decision in each case, although the enterprise in question may appeal to the Council of Control. Those who are subject to notification and then to registration have further, of their own accord, to make any *supplementary declarations* arising out of the text of the law.

In the event of failure to make a notification, the Office of Control proceeds to registration on its own authority (§ 7). Further, § 27 inflicts upon offenders large fines or severe terms of imprisonment, or they may be prohibited from carrying on their business for five years or permanently.

Registration must not impose any unnecessary handicap upon an enterprise, and the information given to the authorities is confidential ; in exceptional cases,

however, it may be communicated to third parties. The Office shall also publish general statements of the declarations received in an official paper (*Trustkontrollen*).

This compulsory registration is supplemented by a comprehensive obligation to furnish information (§§ 10-12). As regards the persons affected, it is unlimited: "Everyone is required . . ." (§ 10); as regards the subject matter, the law mentions "prices, turnover and other conditions". The control authorities may also themselves supplement and check this information by reference to firms' books, papers, reports, etc., and, if necessary may request the police to seize such documents. Those concerned may demand that the information should be treated as confidential and not published. The authorities may also require a statement to be made before an examining magistrate. They can further, *in the general interest*, publish information, except technical secrets.

Critical examination.—This compulsory publicity described above is obviously very far-reaching. It furnishes the control authorities regularly with exact data, on the strength of which they can carry out the formalities and take the necessary measures of prevention, regulation and discipline which their duties involve. The German Cartel Decree does not contain this provision. On the other hand, it offers as substitutes the obligation to reduce agreements to writing (§ 1); the obligation to submit copies of agreements (§ 4, paragraph 1, No. 3, and § 5); and preventive censorship of boycotting measures (§ 9); there is also the Decree of 1917-1923 on the obligation to furnish information, which constitutes an essential supplement to the Cartel Decree. The Cartel Court can itself, in each case submitted to it, order a detailed enquiry in virtue of its official standing.

B. The Main Object of the Law is to prevent Excessive Prices and Profits.

1. A general clause (§ 13) imposes at the outset a general prohibition on undue prices, making it illegal not only to adopt but to demand such prices and exorbitant conditions.

The prohibition applies generally to all commercial and industrial undertakings, both organised and unorganised. This is confirmed by the subsequent clauses of this section, particularly § 14, which is expressly and especially concerned with the *organised* price policy of the classes of undertaking mentioned in § 6.

Accordingly, this general clause in practice maintains the general control of prices which in most European countries began with the world war and the period of inflation, and which was first instituted in Norway in 1914 with the establishment of the Directorate of Prices.

2. At the instance of the Office of Control, it can also be forbidden to fix minimum re-selling prices; this is what is known as the "consolidation of second-hand prices". It has hitherto been absolutely forbidden in the United States, but in Germany and Great Britain the system has been widely employed for the sale of specialities, though recently exception has been taken to it.

3. Further, § 15, *in a general way*, requires retail sellers to quote the price of goods "as far as this is practicable". This provision is also a survival of measures taken to prevent excessive price manipulation during the war and the period of currency instability.

With regard to the organised regulation of prices and profits, the above-mentioned § 14 confers upon the Council of Control the right to intervene with a view to regulation, at the instance of the Office. This right may also be exercised against unorganised

undertakings, " if there is no adequate regulation by competition ". This last provision is obviously intended to cover certain monopoly enterprises.

The right of intervention only extends to unreasonable prices and profits fixed in virtue of combines or agreements of the kind mentioned in § 6. It may also be extended to all other business undertakings if the Control Board has found that the competition does not act effectively. The term " urimelig " covers all prices which seem to give more than fair remuneration, all things taken into consideration. The term " utilborlige " covers (like the term " undue prices ") all prices which are so high that they seem evidently undue to everyone.

4. *Control and limitation of freedom of organisation.* — §§ 16 to 20 of Chapter 6 of the Law contain special provisions relating to the actual organisation of combines and agreements coming under § 6, and confer upon the Council of Control the right to decide as to their maintenance and as to the exercise of compulsion by the organisation.

(a) Under § 16, adherence to organisations of this kind, mentioned in § 6, (1) and (2), must be approved by the Council, if the adherence shall last longer than one year or if the period of denunciation is more than three months. There may be no time limit if the period of denunciation is three months or less. These stipulations are an obvious encroachment upon the provisions of civil and commercial law concerning the establishment of corporations. To some extent, they take the place of the denunciation without notice laid down in Article 8 of the German Cartel Decree, but they go very much further, since they institute a certain preventive censorship in respect even of the founding of such organisations, at any rate so far as concerns the obligations of members under the statutes. In this way, the authorities can, in practice, limit the existence of undesired cartels to a comparatively short period.

(b) Under § 17, combines or agreements of this kind are legally invalid until they have been notified ; this is analogous to the provision in Article 1 of the German Cartel Decree, which prescribes that these agreements must be reduced to writing.

(c) Under § 19, the organisation may not impose upon members penalties for non-fulfilment of their duties, and may not realise bills of exchange, bonds, or other deposits in cases when the provision which the member has infringed is itself " unfair ", or if the penalty is " contrary to the general interest ". The same restriction upon the right to impose penalties applies also to agreements concluded by certain commercial or industrial enterprises with a view to regulating competition.

By this provision, combines created with a view to limiting competition, whether they are organised or based simply upon agreements, are considerably restricted in their right to take the law into their own hands—and this not only in the public interest, but in the interest of each economic unit ; the *policy* of the cartel is thus under strict control. From the point of view of its effects, this measure may be compared with the provisions of the German Cartel Decree concerning the declaration of the nullity of individual resolutions and the right to withdraw therefrom. The realisation of " securities " is, according to § 9 of the German Cartel Decree, subject in principle to preventive censorship, whatever the basis of the obligation.

(d) It is for the Council of Control, at the instance of the Office of Control, to decide, in the last resort, whether provisions of the kind prohibited are present in any particular case.

(e) Under § 20, combines, the object of which is to regulate competition, may be dissolved by the Council of Control if it can be shown that they injuriously affect prices and conditions of production and sale in the home market, or if, generally,

their activities are to be regarded as undue. According, however, to the following section of § 20, this right of repeal can also be applied against companies if these are to be regarded as an agency of an organisation serving to regulate competition which is subject to compulsory notifications, as, for instance, buying and selling companies. These provisions therefore constitute a repeal by public law like the provisions of Article 4 of the German Cartel Decree. According, however, to the following paragraph of § 20, this right of repeal is *far more extensive* than in the German law, since it can also be applied against *individual* companies¹ if these belong to an organisation serving to regulate competition and subject to compulsory notification, or if they take steps which are of the kind objected to and which do in effect regulate competition. In the latter case, the situation is analogous with the dissolution of commercial companies under German law as being injurious to public welfare; it is true, as we have mentioned elsewhere, that this provision has never been applied to cartels. On the other side, § 20 gives no authority to dissolve the companies, which are members of the cartels.

(f) Finally, § 18 very much tightens up the *regulations governing contracts*; the article lays down that all tenders must contain information on this matter, a special clause not included in the German decree. In Germany, these "contract cartels" are subject only to the general provisions of the German Cartel Decree.

(g) Under § 20, appeal may be made against decisions of the Council of Control ordering dissolution to a "Commission of Appeal", which sits as a special court (for details, see below). Other decisions given by the Council in virtue of § 20 can only be appealed against if they have not been adopted unanimously.

5. *Special regulations dealing with boycotting.*—Special regulations with regard to boycotting, exclusive agreements and differentiation of prices are contained in Chapter 7, §§ 21-23.

Unlike the German Cartel Decree, § 21, paragraph 3, gives an exact definition of boycotting:

"By commercial boycotting must be understood the refusal of one or more traders to transact business with another trader or with a consumer on the ordinary business terms; it is, for instance, to be regarded as commercial boycotting whenever the object of the refusal is: (a) to limit the number of traders (*numerus clausus*) or (b) to fight a business group, including both the group itself and its customers, and (c) to fight outside competitors of every description and their customers."

Such boycotting is forbidden when (from the point of view of those boycotted) it is contrary to common interest or works unreasonably (here the term "unfair" is almost synonymous with "*contra bonos mores*"); or (from the point of view of the boycotter) when it is "improper" to the boycotted party. The Council of Control, at the instance of the Office of Control, decides finally whether this is the case.

In the event of such censorship from either point of view, § 22 prohibits all exclusive agreements, that is to say, agreements by which a trader transacts business exclusively or by preference or under especially favourable conditions with another individual trader or a limited number of such traders or with consumers, assuming that these agreements are contrary to common interest or are improper in the effect against other persons.

¹ This at least, is what the original text suggests: "...samt paa selskaper, etc.". The comments on this text by Professor R. Knoph Hergg of the Norsk Industrievorbund do not examine this question.

Similarly, it is forbidden to give or to receive discount or "other reductions" as the reward for illegal boycotting; any attempt to impose exclusive business relations of this kind is forbidden.

Finally, § 23 lays down that the Council of Control may prohibit all differentiation of prices or terms when it tends unduly to restrict or restrain competition; moreover, it is forbidden to sell at prices which evidently are insufficient or purchase at exorbitant prices when it has the same effect and the object in view is to do damage to one of the competitors.

The foregoing provisions make it possible to exercise preventive control and to prohibit boycotting and similar measures to almost the same extent as Article 9 of the German Cartel Decree.

C. *Provisions regarding Procedure.*

1. The application of the law is entrusted to an official organisation specially created for the purpose, and consisting of two administrative instances and one instance of appeal.

The "*communal committees of control*" dealt with in §§ 24 and 25 may also be described as auxiliary instances. These may be set up by any commune with the consent of the King (*i.e.*, of the central Administration). Detailed regulations are issued by the commune, subject to the approval of the competent Ministry. The committee consists of representatives of (local) trade and industry and of consumers. Its principal task is defined in instructions given by the law department. According to these instructions, its task is to deal with appeals made against undue prices, to enforce the trust law and to make investigations when it is ordered by the Office of Control.

These committees may therefore be regarded as optional auxiliary organs of the Office of Control without independent administrative powers. On January 1st, 1928, there were 66 such committees in existence, 18 in the towns and 48 in rural communes. (Most of them no doubt took the place of the former local price supervision offices.)

2. The two chief authorities are: (a) the *Office of Control* and (b) the *Council of Control*. Both are independent authorities directly appointed by the King and responsible to him alone, and in view of their composition they can both be described as "cartel offices"; of the type which has been advocated by many countries, including Germany.

Ad (a) The Office of Control is a permanent administrative authority with a budget of its own; it is the *administrative organ* specially entrusted with the application of the law. According to §§ 10 and 11 of the Law, the Office has the right to require information and to summon persons to appear before the Office to make verbal statements. If the Office finds that a trust or a combine or other business undertakings abuse their power or otherwise act against the law, it may place the case before the Council of Control with its recommendations according to the sections mentioned above. The Office has also the right to initiate penal proceedings. According to the first annual report on the working of the law, which covers the period from July 1st, 1927, to December 31st, 1927, it consisted of a Director, who is appointed by the King and must be qualified to act as a judge in the Supreme Court, and of ten other officials, in respect of which a budget of 80,000 crowns is provided.

Ad (b) The *Council of Control* is the executive organ, *i.e.*, the authority responsible for taking decisions. For this purpose, it is composed of a president and four members, who are appointed by the King and hold office for four years, as do their

deputies, the latter being appointed so that if one of the members, including the president, is objected to owing to the subject under discussion, he can be immediately replaced. Members, including the president, or employees of undertakings or organisations liable to notification are not eligible. There are no regulations concerning the president. He only receives a small annual fee ; the most suitable person to fill the post is a high administrative official or judge. For both bodies, special rules of procedure have been promulgated by the King (the central Administration).

The Director of the Office attends the meetings of the Council of Control, and the proposals to be settled by the Council are, as mentioned above, placed before the Council by him. If he withdraws his proposals, the case is taken out of the Council, who has no power to act on its own initiative.

Decisions of the Council may in the special cases mentioned above be appealed against to a Committee of Appeal, consisting of a senior judge and four lay assessors appointed by the King. It therefore constitutes an administrative court of appeal acting as the last instance in all proceedings arising out of this law.

The Office and Council of Control both have to submit annual reports to the King, which are then laid before Parliament ¹.

D. *Penal Provisions.*

These are laid down in §§ 27 and 28 and provide for the fines and terms of imprisonment already mentioned or for the prohibition of the undertaking. As regards the penal procedure itself, no provisions exist and it is therefore evidently subject to the ordinary courts.

E. *Abrogation of Previous Laws.*

With the entry into force of the Law of July 1st, 1926, dealt with above, the Law of August 6th, 1920, regarding price regulation, etc., was abrogated.

F. *Summarised View of the Legal Character of the Norwegian Law.*

In my opinion, the Norwegian law constitutes the most logical application hitherto seen of the purely administrative supervision of industrial organisations of commercial importance. It embraces a very large number of economic organisations serving to regulate competition, and its application is carried out entirely by the Administration.

¹ The Office of Control also publishes periodical reports on its work in its own review, entitled "Trust Control", which is put on sale.

POLAND.

REVIEW SUBMITTED BY DR. TSCHIERSCHKY.

[*Translation.*]

The legal position of cartels in a newly created State like Poland somewhat resembles the situation in Czechoslovakia. Here, also, for lack of a uniform codified national legislation, various codes are still provisionally in force, namely, the former Austrian code and the German and Russian codes, each in the form in which it stood at the outbreak of the war. Thus the former Prussian territory—Posen and Upper Silesia—is governed by the German Civil Code, the Commercial Code and the law on limited liability companies. Similarly, in the former Austrian part of the country, the Coalition Law of 1870 is still valid, with its well-known Article 4, which confers upon cartels a peculiar status explained in greater detail in connection with Austria. In that part of Poland under Russian law which, in the main, comprises Eastern Poland, there is the same absence of a special legal basis for cartels as in the Polish-German area. It is true that Russian law recognised the compulsory registration of commercial companies and a kind of concession system which enables the administrative authorities to take action when necessary in regard to the establishment of cartel companies. This system of concessions has been extended in what was formerly German territory by Ministerial Decrees of 1922-1924, which make joint-stock companies of national importance satisfy certain economic conditions before their statutes can be approved. A general provision of the former Russian Penal Code of 1903, which is therefore still a basis of Polish law, penalises associations which aim at increasing prices, especially the prices of essential commodities. This, of course, could only affect a comparatively small group of cartels. For the rest, neither the Polish Supreme Court, which has now been set up, nor the lower courts are bound by the decisions of the courts in the old spheres of jurisdiction. Further, there are still in force in Poland various laws enacted during the war and the period of inflation, as, for example, a law of 1920 which, throughout Poland, makes it a punishable offence to demand excessively high prices, but these laws do not closely affect the legal status of cartels.

At any rate, it is a fact that since the end of the war cartellisation has developed in Poland to an extent hardly equalled by any other country. In this development, the central authorities concerned have obviously paid careful attention to details and also appear to exercise some degree of control, at least over cartels of more special importance to the general community. This development undoubtedly suggests that the legal situation hitherto obtaining in the country has not placed difficulties in the way of the organisation and operation of cartels.

Meanwhile, the Government has submitted to Parliament a special draft law on cartels, which is annexed hereto in its present form. It is modelled rather on the German than on the Czechoslovak law.

[*Translation.*]

Annex.

DRAFT LAW ON THE GOVERNMENT SUPERVISION OF CARTELS.

General Provisions.

Article 1.

The provisions of the present law apply to all combinations of mine-owners, industrialists and traders which aim at the limitation of production, the regulation of sales and prices and the establishment of conditions of sale and purchase by means of mutual obligations or the exercise of control.

Article 2.

The combinations mentioned in Article 1 must, on pain of invalidity, be concluded in writing between the contracting parties and with respect to third parties, and must be entered in the cartel register.

Article 3.

A Commissioner of Cartels, appointed under the Minister of Trade and Industry, shall keep the cartel register.

The Minister of Trade and Industry shall publish, in agreement with the Minister of Justice, an executive decree concerning the keeping of the cartel register.

Article 4.

The registration of combinations covered by Article 1 shall consist of the entry of the relevant particulars in the cartel register.

Entries in the register may be published by the Commissioner of Cartels.

The cartel register may be consulted by previous authorisation of the Commissioner of Cartels.

The deeds and documents in virtue of which registration has been effected may not be consulted or published.

Article 5.

An application for entry in the cartel register must be submitted within fourteen days from the drawing up of the written act provided for in Article 2 of the present law.

Applications for the registration of combinations covered by Article 1 and already in force at the time of the promulgation of the present law must be submitted within thirty days from the time of the entry into force of the executive decree provided for in Article 3.

All amendments to the combination, and also its expiration and cancellation, must likewise be registered within fourteen days.

All applications for entry into the cartel register must be submitted by authorised persons.

Polish citizens participating in a combination abroad must also inscribe themselves in the cartel register.

Article 6.

Persons participating in combinations who have not complied with the obligation of entry in the cartel register in pursuance of the conditions mentioned above shall be compelled to do so and shall be liable to a fine not exceeding 50,000 zlotys.

Registration must be effected, and the fine must be paid, within fourteen days from the date of notification. The decision as to compulsory registration and the payment of a fine shall be taken by the Commissioner of Cartels.

Appeal against the Commissioner's decision regarding the obligation to register and regarding the amount of the fine may be made to the Cartel Court within fourteen days of their notification.

The submission of an appeal shall have the effect of suspending the execution of the Commissioner's decision until the final decision in the appeal has been taken.

Article 7.

If after an appeal has been rejected no application for registration has been made within the time-limit fixed by the Cartel Court, the latter may impose a fine not exceeding 200,000 zlotys and may fix a fresh time-limit for the application, after which the agreement, if not registered, will be annulled.

Article 8.

The Commissioner of Cartels may require persons participating in combinations, the organs of these combinations and the persons authorised to represent them to submit to him the decisions adopted by the combinations, as well as all the documents, commercial books, extracts and copies relating to the carrying into effect of the said combinations and the work of their organs.

He may also require them to furnish any relevant explanations.

Article 9.

In calculating prices with a view to submitting requests for a decision to the Cartel Court, the Commissioner of Cartels shall be entitled to consult the relevant documentation of the official authorities and institutions.

[*Translation*].

Cartel Court.

Article 10.

A Cartel Court shall be set up at Warsaw to deal with matters arising out of the present law.

Article 11.

The judgments of the Cartel Court shall be valid when the President, two judges and two assessors are present.

Article 12.

The President and one of the judges and his deputy shall be appointed by the First President of the Supreme Court, and shall be selected from among the judges of the Supreme Court. The other judge and his deputy shall be selected from among the judges of the Supreme Administrative Court and shall be appointed by the First President of the said Court.

The assessors, who shall number sixteen, shall be appointed by the Minister of Trade, Industry and Finance, and shall be selected from among persons pre-eminent for their theoretical and practical knowledge of economic affairs.

The judges shall act as judges of the Cartel Court until their appointment is terminated, and the assessors for a period of two years, after which they may be re-appointed.

The President of the Cartel Court shall appoint the assessors for each particular case.

Article 13.

The Minister of Justice shall determine the procedure before the Cartel Court in agreement with the Minister of Trade and Industry.

Article 14.

The Cartel Court shall pronounce judgment at the request of the Commissioner of Cartels in the cases provided for in Articles 7 and 15, and in appeals by the parties concerned, as provided for in Article 6.

The judgments of the Cartel Court shall be final and shall be binding on the ordinary courts and arbitration courts in the matters reserved to the competence of the Cartel Court.

The Cartel Court shall publish a collection of its judgments showing the settlements of disputes and the legal principles deduced from the present law.

Article 15.

If combinations are liable to have consequences dangerous to the public welfare, the Commissioner may lay before the Cartel Court a request :

1. For a judgment pronouncing the dissolution of the combination or the annulment of the decision in question ;
2. For the proclamation of the right of each participant not to carry out the decision, or to denounce the combination, or to withdraw therefrom.

Article 16.

Combinations and the decisions adopted by them shall be held to be dangerous to the public welfare in the following cases :

1. When production, sale, or freedom of trade is restricted in a manner unjustifiable from the economic point of view ;
2. When prices are raised to or kept on a level not corresponding to economic requirements ;
3. When combinations, in pursuing their aims, misuse their economic preponderance to the detriment of other combinations or of individual traders.

Article 17.

The judgments of the Cartel Court with regard to the cartel register shall be entered in the books of the register,

Article 18.

Any person found guilty of having, before the Commissioner of cartels, borne false witness or produced falsified evidence or other particulars for registration, of

having hindered a witness or expert in the performance of his duties before the Cartel Court, of having committed violence against the person of the witness, expert or person representing the combination, or those participating therein, by reason of the evidence given by him, shall be sentenced, unless a heavier penalty is incurred under the Penal Code, to imprisonment not exceeding one year or to a fine not exceeding 500,000 zlotys, or to both penalties.

In the territory subject to the Penal Code of 1871, and in the case of a sentence to detention (*réclusion*) for over six weeks, arrest shall be replaced by imprisonment.

Article 19.

Any person hindering the Commissioner's representative from consulting books and documents, or from making copies thereof, or failing to comply with the provision with regard to the deposit of the above-mentioned documents, shall be liable to detention for not more than six weeks or to a fine of not more than 100,000 zlotys, or to both penalties, unless a heavier penalty is incurred under the penal laws in force.

Article 20.

The court of second instance shall be competent in regard to all offences covered by Articles 18 and 19 of the present law.

Article 21.

At the Commissioner's request, the Cartel Court may impose a fine of not more than 500,000 zlotys on those taking part in a combination who are found guilty of having deliberately carried out the provisions of a cancelled or annulled combination.

Article 22.

The present law shall enter into force within sixty days of its promulgation, and all contrary provisions of other laws shall be abrogated.

Article 23.

The Minister of Trade and Industry and the Minister of Justice shall be responsible for the execution of the present law.

SPAIN.

REVIEW SUBMITTED BY M. DECUGIS.

[*Translation.*]

There are in Spain no bodies specially entrusted with the supervision of cartels, trusts or industrial or commercial combinations, *i.e.*, groups of producers and traders ¹. But the Royal Ordinance of May 5th, 1926, set up a "Committee for the Regulation of Industrial Production", without the authorisation of which it is forbidden, in principle, to establish or modify any industrial company or business, or even to transfer installations.

It is worth noting, however, that the Spanish Government recognises the advantages of industrial concentration, as is shown by the Statement of Reasons to the Decree-Law of December 31st, 1929.

The methods of operation of the Committee for the Regulation of Industrial Production established by the Royal Ordinance of 1926 are laid down and defined by a Decree dated December 5th, 1926, by the Decree-Law of September 7th, 1929, and by the Royal Decree of November 2nd, 1929, which, by dividing industries into three groups, considerably temper the apparent severity of the 1926 Ordinance.

1. *Uncontrolled Industries.*

Companies or undertakings engaged in these industries may establish or modify the same without any special authorisation.

The industries in question are those connected with agriculture, stock-breeding, forestry, hunting or fishing, mines, salt-works, quarries, transport of passengers and goods and banking.

2. *Industries for the Establishment or Transfer of which Previous Authorisation must be obtained.*

The following industries are included in this group :

Establishments for distilling or refining liquid fuel and the preparation of by-products ; potteries ; glass-making industries ; cork factories ; machine-made leather boot factories ; iron industry ; metallurgical industries (copper, zinc, tin and aluminium) ; machinery of every sort (electrical apparatus, railway material, ship-building and the building of dirigibles, aeroplanes and seaplanes) ; products derived from coal ; vegetable oils, except olive oils ; paper industry ; textiles ; sugar refineries ; preserved foods of every kind.

No permission is required for altering or enlarging power-producing or transmitting plant for the above industries.

The practical importance of these restrictive provisions must not, however, be exaggerated. Once the authorisation has been obtained, the authorities do not interfere with the management of these undertakings and do not attempt to prevent industrial concentration, which is gaining ground in Spain as elsewhere.

¹ The draft Commercial Code, which is not yet in force, contains various provisions which recognise the validity of industrial and commercial combinations under ordinary law, but require that they should be established by public Acts entered in the Commercial Register.

3. *Industries for which provisionally no Authorisation need be obtained.*

These industries—which are those not included in the first two groups—may subsequently be brought under the system of special authorisation, either automatically on the proposal of the Committee or at the request of some interested party.

The penalties for offences against the decree are debarment from engaging in business and a fine up to one half the value of the material.

Although these regulations are not primarily aimed at trusts, cartels or combinations, they do amount to the supervision and administrative rationing of production.

The supervision of wholesale and retail prices was already ensured by a Decree of 1921, making it possible to require all producers to announce their selling prices.

Products of prime necessity and foodstuffs, under the Regulation of December 31st, 1923, are placed under the supervision of the Provincial Food Supply Committees and a Central Committee attached to the Ministry of the Interior (*Juntas Central y Provinciales de Abastos*).

These Committees are entitled, when they think it desirable, to regulate the price of raw materials used for the manufacture of articles of prime necessity and foodstuffs, and to supervise and restrict the distribution of these products.

If, as a result of an agreement between certain producers, articles tend to become scarce or dear, the Committees may, even as a preventive measure, conduct enquiries in factories, workshops, depôts and selling establishments and may fix rules of priority for manufacture, distribution or sale. They may also oblige holders of goods to deliver all or part of the goods already ordered.

The Committees may even, with Government authorisation, seize goods and ensure their sale, provided the owner is reimbursed for their value within thirty days.

In the event of fraudulent interference with prices, the penalties to be inflicted upon the guilty party are as follows (Penal Code, 1928) :

“ *Article 738.*—Any person or persons who, by spreading false rumours or by any other means, disturb the normal level of prices resulting from open competition as regards goods, shares, public or private funds, or any other assets which may form the subject of business transactions, shall be punished by imprisonment of from one to three months and a fine of from 1,000 to 5,000 pesetas.

“ If the offence is committed by a stock or bill-broker, or any other officially recognised broker, the penalty shall be imprisonment of from six months to two years, absolute prohibition to exercise the trades in question for six years, and a fine of from 1,000 to 15,000 pesetas.

“ If the offence is committed by managers, directors, or members of the board of management of companies, or by private persons, in order to raise or lower the market price of their own securities or goods, the maximum penalty shall be applied.

“ The maximum penalty shall also be inflicted if the fraud in question is committed in connection with foodstuffs or any other article of prime necessity. ”

“ *Article 806.*—(1). Any persons who, without achieving their object, have spread false rumours or used any other illicit means in order to influence the normal price of goods, provided the fact does not constitute a penal offence ;

“ (2) And any persons who have infringed the police regulations intended to ensure the food supply of the population ;

“ Shall be liable to a penalty of from five to thirty days' detention and a fine of from 25 to 500 pesetas. ”

It is extremely difficult to give any definite opinion regarding the efficacy of the somewhat autocratic regime to which practically the whole of Spanish industry is at present subject.

It would seem, however, that in practice the Government is not hostile to industrial or commercial concentration or combinations.

There are few corporate combinations among producers ; large industrial cartels, so common in other countries, are as yet infrequent in Spain, though they are increasing in number. Some already exist, however, in the iron and steel industry and the sugar and cement industries.

These corporate combinations do not appear to have committed any improper actions requiring the intervention of the public authorities. It would appear that the chief aim of the Government was to check individual speculation, which is facilitated by the inadequate economic organisation of the country. It has only succeeded to a very limited extent, however, since the wholesale price index has, since 1914, risen to a far greater extent in Spain than in the belligerent countries, which have to bear the burden of taxation and other charges of every kind consequent upon the war. Taking the 1914 prices as 100, the wholesale price index in February 1929 was 173.

As regards international *dumping*, attention should be drawn to the Law of April 22nd, 1922, the so-called " Authorisation Law ", which authorises the Spanish Government to " take all necessary measures for the protection of the national industry against foreign industrial or economic dumping ".

UNITED STATES OF AMERICA.

REVIEW SUBMITTED BY MR. OLDS.

This memorandum is an attempt to state in general terms the policy of the United States with respect to industrial combinations and monopolies. It deals primarily with the principles lying at the basis of that policy and makes such reference to statutes, judicial decisions and administrative practice as may be necessary to define these principles and illustrate their application.

1. At the outset, it should be noted that, under the Constitution of the United States, the central or Federal Government, as distinguished from the States which comprise the American Union, has supreme and exclusive control over inter-State and foreign commerce. The line of decisions interpreting this power of the Federal Government and reconciling it with the authority of the various States to make reasonable regulations in the exercise of the ordinary police power, the enforcement of health and quarantine measures, etc., need not concern us. It is sufficient to observe that, in all essential respects, the regulation of inter-State and foreign commerce lies definitely within the province of the Federal Government. And, of course, the power to regulate such commerce carries with it the effective control over all large industrial combinations and monopolies, because, as a practical matter, the operations of every industrial enterprise of any appreciable size or importance do in fact assume inter-State, if not international, scope.

2. The old saying that "competition is the life of trade" may be said to form Article 1 of the economic creed of the United States. From the beginning, the American people have firmly believed in the competitive system as sound in principle and best for their interests as individuals and for those of the country as a whole. The idea of free and unrestrained competition as a basic principle of economic development is almost instinctive with them and every attempt to set it aside or seriously to depart from it has thus far failed. It is not a new idea; it runs back with no break in continuity to the doctrines of the English common law which were brought over by the early settlers. So that the existing policy is in reality traditional, and is by no means a recent development.

3. Whereas in some parts of Europe during the past few decades a certain kind of economic pressure has induced an attitude of tolerance towards industrial combinations and monopolies, with the attendant features of price-fixing, limitation of output, etc., by agreement more or less under Government supervision and regulation—all in the interest of what is described as the "national economy"—this has not been true in the United States. There the emphasis has been, not so much upon the so-called "national economy" as upon the direct interests of the consumer and of the small trader. Indeed, it is conceived that "national economy" will best be promoted in the long run by securing to the consumer and the small trader the full benefits of free competition.

Just at this point, the lines of American and European policy begin to diverge. On the one hand, we find a tendency to encourage combinations and monopolies, setting up in connection therewith the machinery required for State supervision or

regulation in regard to prices and output. This is, generally speaking, the tack taken by Germany and by other countries which have followed that lead. In the United States, on the other hand, we find a consistent adherence to the competitive system in its entirety, and combinations and monopolies have been tolerated only in so far as they could be held not to involve any unreasonable restraint upon freedom of contract and upon competition in the broadest acceptance of the term. Legislative and administrative action have taken the form of prohibitions and restrictions, as distinguished from purely regulative and supervisory measures. The Government of the United States has declined to go into the business of fixing prices and regulating output either directly or indirectly, insisting that unrestricted competition, freedom of contract, and the normal operation of the law of supply and demand must be permitted to have full force and effect in these matters.

4. So deeply embedded in American polity is the principle above referred to that, for more than a century, there was little or no need for legislative definition or enforcement. With the rise of great aggregations of capital, however, and the consequent threat to the competitive system, came the necessity for legislative action. Accordingly, in the year 1890, the American Congress enacted a law which has become the classic definition of American policy on this subject. The Sherman Act of that year provided as follows :

“ Every contract, combination in the form of trust or otherwise, or conspiracy, in restraint of trade or commerce among the several States, or with foreign nations, is hereby declared to be illegal . . . ”

“ Every person who shall monopolise, or attempt to monopolise, or combine or conspire with any other person or persons to monopolise, any part of the trade or commerce among the several States, or with foreign nations, shall be deemed guilty of a misdemeanour . . . ”

This has been followed by other anti-trust laws designed to enforce the policy still further. In 1913, the Wilson Tariff Act of 1894 was amended so as to provide that :

“ Every combination, conspiracy, trust, agreement, or contract is hereby declared to be contrary to public policy, illegal, and void when the same is made by or between two or more persons or corporations either of whom, as agent or principal, is engaged in importing any article from any foreign country into the United States, and when such combination, conspiracy, trust, agreement, or contract is intended to operate in restraint of lawful trade, or free competition in lawful trade or commerce, or to increase the market price in any part of the United States of any article or articles imported or intended to be imported into the United States, or of any manufacture into which such imported article enters or is intended to enter . . . ”

In 1914, Congress passed what is known as the Clayton Act, making unlawful specific acts such as price discrimination, acquisition of stock of competing corporations interlocking Boards of Directors and other devices, the effect of which might substantially lessen competition or tend to create a monopoly in any line of commerce.

Section 2 of this Law states :

“ That it shall be unlawful for any person engaged in commerce, in the course of such commerce, either directly or indirectly, to discriminate in price between different purchasers of commodities, which commodities are sold for use, consumption, or resale within the United States or any territory thereof or the

District of Columbia or any insular possession or other place under the jurisdiction of the United States where the effect of such discrimination may be to substantially lessen competition or tend to create a monopoly in any line of commerce.”

Section 3 provides :

“ That it shall be unlawful for any person engaged in commerce, in the course of such commerce, to lease or make a sale or contract for sale of goods, wares, merchandise, machinery, supplies, or other commodities, whether patented or unpatented, for use, consumption, or resale within the United States or any territory thereof or the District of Columbia or any insular possession or other place under the jurisdiction of the United States, or fix a price charged therefor, or discount from, or rebate upon, such price, on the condition, agreement, or understanding that the lessee or purchaser thereof shall not use or deal in the goods, wares, merchandise, machinery, supplies, or other commodities of a competitor or competitors of the lessor or seller, where the effect of such lease, sale, or contract for sale or such condition, agreement, or understanding may be to substantially lessen competition or tend to create a monopoly in any line of commerce.”

In the same year, 1914, the Federal Trade Commission was created. This body superseded the Bureau of Corporations, which was largely an agency for gathering information and had no substantial authority to take definite action. The new Commission was given wide investigatory powers, and may, after a hearing, issue orders requiring any person, partnership or corporation to cease and desist from using methods of competition found to be unfair and unlawful ; and, in case the orders are not obeyed, may apply to the courts for their enforcement. The findings of fact of the Commission, when supported by testimony, are declared to be conclusive.

Section 5 of the Act establishing the Federal Trade Commission provides among other things :

“ That unfair methods of competition in commerce are hereby declared unlawful.

“ The Commission is hereby empowered and directed to prevent persons, partnerships, or corporations, except banks, and common carriers subject to the Acts to regulate commerce, from using unfair methods of competition in commerce.”

Among the powers conferred in Section 6 is the following :

“ To investigate, from time to time, trade conditions in and with foreign countries where associations, combinations, or practices of manufacturers, merchants, or traders, or other conditions may affect the foreign trade of the United States, and to report to Congress thereon, with such recommendations as it deems advisable.”

The Revenue Act of 1916 contains the so-called anti-dumping provision, reading as follows :

“ That it shall be unlawful for any person importing or assisting in importing any articles from any foreign country into the United States, commonly and systematically to import, sell or cause to be imported or sold such articles within the United States at a price substantially less than the actual market value or wholesale price of such articles at the time of exportation to the United States, in the principal markets of the country of their production, or of other foreign

countries to which they are commonly exported, after adding to such market value or wholesale price, freight, duty and other charges and expenses necessarily incident to the importation and sale thereof in the United States : Provided, that such act or acts be done with the intent of destroying or injuring an industry in the United States, or of preventing the establishment of an industry in the United States, or of restraining or monopolising any part of trade and commerce in such articles in the United States.”

It will be observed that none of these laws, enacted over a period of more than twenty-five years beginning with 1890, evidences any real disposition to relax the main policy laid down in the Sherman law ; on the contrary, they show a progressive determination to enforce it.

The Webb Export Trade Act of 1918 is sometimes said to have indicated an opposite trend. The purpose of that law was, however, merely to permit American concerns to participate in associations for the sole purpose of engaging in the export trade, provided such association or any agreement or act done in furtherance thereof does not in any respect affect prices or lessen competition or restrain trade within the United States. The pertinent provisions for our purpose are as follows :

“ That nothing contained in the Act entitled ‘ An Act to protect Trade and Commerce against Unlawful Restraints and Monopolies ’, approved July second, eighteen hundred and ninety, shall be construed as declaring to be illegal an association entered into for the sole purpose of engaging in export trade and actually engaged solely in such export trade, or an agreement made or act done in the course of export trade by such association, provided such association, agreement, or act is not in restraint of trade within the United States, and is not in restraint of the export trade of any domestic competitor of such association : And provided, further, that such association does not, either in the United States or elsewhere, enter into any agreement, understanding, or conspiracy, or do any act which artificially or intentionally enhances or depresses prices within the United States of commodities of the class exported by such association, or which substantially lessens competition within the United States or otherwise restrains trade therein.”

.....
“ That the prohibition against ‘ unfair methods of competition ’ and the remedies provided for enforcing said prohibition contained in the Act entitled ‘ An act to create a Federal Trade Commission, to define its Powers and Duties, and for other Purposes ’, approved September twenty-sixth, nineteen hundred and fourteen, shall be construed as extending to unfair methods of competition used in export trade against competitors engaged in export trade, even though the acts constituting such unfair methods are done without the territorial jurisdiction of the United States.”

It should be noted that the Webb Act relates only to *export* trade and is designed to permit American exporters to operate abroad on an equal footing with foreign concerns. Subject to the limitation laid down in the Act, the American exporter enters the foreign field unfettered by the restrictions imposed by the anti-trust laws of the United States.

Another law occasionally appealed to as an exception is the Capper-Volstead Act of 1922, which provides as follows :

“ That persons engaged in the production of agricultural products as farmers, planters, ranchmen, dairymen, nut or fruit growers may act together in associations

corporations, or otherwise, with or without capital stock, in collectively processing, preparing for market, handling, and marketing in inter-State and foreign commerce, such products of persons so engaged. Such associations may have marketing agencies in common; and such associations and their members may make the necessary contracts and agreements to effect such purposes: Provided, however, that such associations are operated for the mutual benefit of the members thereof as such producers . . .”

But here, again, the principle is safeguarded by a specific provision that, whenever the Secretary of Agriculture shall have reason to believe that any such association monopolises or restrains trade in inter-State or foreign commerce to such an extent that the price of any agricultural product is unduly enhanced by reason thereof, he shall cite the association in, take evidence, give a hearing, make findings of fact, and, if he concludes that the association does monopolise or restrain trade in inter-State or foreign commerce and prices are unduly enhanced thereby, make an order directing the association to cease and desist from such monopolisation or restraint of trade. The aid of the Department of Justice and the Courts to enforce such order is also provided for.

Most, if not all, of the States comprising the American Union have anti-trust laws which, for reasons already given, possess no especial interest for our purpose, save that they indicate a uniform adherence to the general policy embodied in the Federal legislation.

5. During the past thirty-nine years there have been, approximately, 450 decisions of the United States Courts interpreting and applying the anti-trust laws. It would be impracticable within the scope of this memorandum to enter upon a detailed discussion and analysis of these decisions, and indeed it is hardly necessary to do more than direct attention to a few of the outstanding features. Some of the earlier decisions proceeded upon a rigid literal construction of the Sherman Law. After a time, however, the Supreme Court came to the view that the Act “ must have a reasonable construction, or else there would scarcely be an agreement or contract among business men that could not be said to have, indirectly or remotely, some bearing on inter-State commerce and possibly to restrain it”. *United States v. Joint Traffic Association* (171 U.S. 568).

Finally, in the *Standard Oil* and *American Tobacco* cases, the Court definitively laid down what has come to be known as the “ Rule of Reason ”. The history of the legislation and the underlying motive for its enactment were discussed at length by the Court. The opinion in the *Standard Oil* case (221 U.S. 50) states :

“ The debates show that doubt as to whether there was a common law of the United States which governed the subject in the absence of legislation was among the influences leading to the passage of the Act. They conclusively show, however, that the main cause which led to the legislation was the thought that it was required by the economic condition of the times : that is, the vast accumulation of wealth in the hands of corporations and individuals, the enormous development of corporate organisation, the facility for combination which such organisations afforded, the fact that the facility was being used, and that combinations known as trusts were being multiplied, and the widespread impression, that their power had been and would be exerted to oppress individuals and injure the public generally ”

“ There can be no doubt that the sole subject with which the first section deals is restraint of trade as therein contemplated, and that the attempt to

monopolise and monopolisation is the subject with which the second section is concerned. It is certain that those terms, at least in their rudimentary meaning, took their origin in the common law, and were also familiar in the law of this country prior to and at the time of the adoption of the Act in question."

In connection with the reference by the Court to the Congressional debates, it is instructive to note that Senator Sherman, in discussing the Bill before the Senate, said :

" It declares that certain contracts are against public policy, null and void. It does not announce a new principle of law, but applies old and well-recognised principles of the common law to the complicated jurisdiction of our State and Federal Government. "

Senator Hoar, in closing the debate on the Bill, said : " The great thing that this Bill does, except affording a remedy, is to extend the common law principles which protected fair competition in trade in old times in England to international and inter-States commerce in the United States ". After thus dealing with the origin of the Act, the Supreme Court in the Standard Oil case proceeded to construe it in the light of the principles of the common law and said :

" The situation is this : (1) That, by the common law, monopolies were unlawful because of their restriction upon individual freedom of contract and their injury to the public. (2) That, as to necessaries of life, the freedom of the individual to deal was restricted where the nature and character of the dealing was such as to engender the presumption of intent to bring about at least one of the injuries which it was deemed would result from monopoly, that is, an undue enhancement of price. (3) That, to protect the freedom of contract of the individual not only in his own interest but principally in the interest of the common weal, a contract of an individual by which he put an unreasonable restraint upon himself as to carrying on his trade or business was void. And that at common law the evils consequent upon engrossing, etc., caused those things to be treated as coming within monopoly and sometimes to be called monopoly, and the same considerations caused monopoly, because of its operation and effect, to be brought within and spoken of generally as impeding the due course of or being in restraint of trade. "

" Without going into detail and but very briefly surveying the whole field, it may be said with accuracy that the dread of enhancement of prices and of other wrongs which it was thought would flow from the undue limitation on competitive conditions caused by contracts or other acts of individuals or corporations led, as a matter of public policy, to the prohibition, or treating as illegal, all contracts or acts which were unreasonably restrictive of competitive conditions, either from the nature or character of the contract or act where the surrounding circumstances were such as to justify the conclusion that they had not been entered into or performed with the legitimate purpose of reasonably forwarding personal interest and developing trade, but, on the contrary, were of such a character as to give rise to the inference or presumption that they had been entered into or done with the intent to do wrong to the general public and to limit the right of individuals, thus restraining the free flow of commerce and tending to bring about the evils, such as enhancement of prices, which were considered to be against public policy. "

The Court concluded " that the Statute was drawn in the light of the existing practical conception of the law of restraint of trade "; that its context clearly

contemplated resort to some standard " for the purpose of determining whether the prohibition contained in the Statute had or had not in any given case been violated " ; and that the standard of reason which had been applied at the common law was the one intended. A final quotation from the opinion is worthy of attention :

" The criteria to be resorted to in any given case for the purpose of ascertaining whether violations of the section have been committed is the rule of reason guided by the established law and by the plain duty to enforce the prohibitions of the Act and thus the public policy which its restrictions were obviously enacted to subserve. And it is worthy of observation, as we have previously remarked concerning the common law, that, although the Statute, by the comprehensiveness of the enumerations embodied in both the first and second sections, makes it certain that its purpose was to prevent undue restraints of every kind or nature, nevertheless, by the omission of any direct prohibition against monopoly in the concrete, it indicates a consciousness that the freedom of the individual right to contract when not unduly or improperly exercised was the most efficient means for the prevention of monopoly, since the operation of the centrifugal and centripetal forces resulting from the right to freely contract was the means by which monopoly would be inevitably prevented if no extraneous or sovereign power imposed it and no right to make unlawful contracts having a monopolistic tendency were permitted. In other words, that freedom to contract was the essence of freedom from undue restraint on the right to contract. "

The application of this " Rule of Reason " naturally brings varying results depending upon the facts appearing in each particular case ; and has given rise to the distinction between so-called " good and bad trusts ". Both the standard Oil and the American Tobacco combinations were thus condemned in the light of the facts as constituting unreasonable combinations and monopolies in restraint of trade. Some years later, the United States Steel Corporation was held to be not within the condemnation of the Statute because it had not in fact achieved a monopoly or used its power unfairly to strike down competition, enhance prices or lower the quality of products, and had not combined with its competitors unduly to raise prices or restrain competition. The argument put forward by the Government, based upon the mere size of the corporation, was not endorsed. The Court said (251 U.S. 451), " The law does not make mere size an offence, or the existence of unexercised power an offence " .

A recent pronouncement of the Supreme Court on the " Rule of Reason " brings out an important distinction. Quotation is made from *United States v. Trenton Potteries Company*, 273 U.S. 392 (decided in 1927) :

" That only those restraints upon inter-State commerce which are unreasonable are prohibited by the Sherman Law was the rule laid down by the opinions of this Court in the Standard Oil and Tobacco cases. But it does not follow that agreements to fix or maintain prices are reasonable restraints and therefore permitted by the Statute merely because the prices themselves are reasonable. Reasonableness is not a concept of definite and unchanging content. Its meaning necessarily varies in the different fields of the law, because it is used as a convenient summary of the dominant considerations which control in the application of legal doctrines. Our view of what is a reasonable restraint of commerce is controlled by the recognised purpose of the Sherman Law itself. Whether this type of restraint is reasonable or not must be judged, in part at least, in the light of its effect on competition ; for, whatever difference of opinion there may be among economists as to the social and economic desirability of an unrestrained

competitive system, it cannot be doubted that the Sherman Law and the judicial decisions interpreting it are based upon the assumption that the public interest is best protected from the evils of monopoly and price control by the maintenance of competition. ”

The same idea was expressed in the opinion in the American Tobacco case, where the Court, speaking of the Standard Oil decision, said :

“ It was held, not that Acts which the Statute prohibited could be removed from the control of its prohibitions by a finding that they were reasonable, but that the duty to interpret which inevitably arose from the general character of the term ‘ restraint of trade ’ requires that the words ‘ restraint of trade ’ should be given a meaning which would not destroy the individual right to contract and render difficult if not impossible any movement of trade in the channels of inter-State commerce—the free movement of which it was the purpose of the Statute to protect. ”

American industry has, perhaps reluctantly, as the large number of cases which have arisen shows, accepted the situation, and the “ Rule of Reason ” is still the law of the land. One tendency which has appeared has been an increasing resort to trade associations ; and there has been an interesting line of decisions defining the limits of the activities of such associations. Here, again, the “ Rule of Reason ” has been applied and some of these organisations have been condemned, while others have been approved. The four leading cases on this subject are :

American Column Company *v.* United States, 257 U.S. 377 (decided in 1921) ;
United States *v.* American Linseed Oil Company, 262 U.S. 371 (decided in 1923) ;

Maple Flooring Manufacturers Association *v.* United States, 268 U.S. 563 (decided in 1925), and

Cement Manufacturers Association *v.* United States, 268 U.S. 588 (decided in 1925).

In the first two of these cases, the Association was held to be unlawful, and in the last two the contrary conclusion was reached. The general attitude of the Supreme Court is apparent from the following quotations :

In the Maple Flooring case, the Court said :

“ If, looking at the entire contract by which they are bound together in the light of what has been done under it, the Court can see that its necessary tendency is to suppress competition in trade between the States, the combination must be declared unlawful. That such is its tendency, we think, must be affirmed.

“ It is not, we think, open to question that the dissemination of pertinent information concerning any trade or business tends to stabilise that trade or business and to produce uniformity of price and trade practice. Exchange of price quotations of market commodities tends to produce uniformity of prices in the markets of the world. Knowledge of the supplies of available merchandise tends to prevent overproduction and to avoid the economic disturbances produced by business crises resulting from overproduction. But the natural effect of the acquisition of wider and more scientific knowledge of business conditions on the minds of the individuals engaged in commerce, and its consequent effect in stabilising production and price, can hardly be deemed a restraint of commerce or, if so, it cannot, we think, be said to be an unreasonable restraint or in any respect unlawful.

“ It is the consensus of opinion of economists and many of the most important agencies of Government that the public interest is served by the gathering and dissemination, in the widest possible manner, of information with respect to the production and distribution, cost and prices in actual sales, of market commodities, because the making available of such information tends to stabilise trade and industry, to produce fairer price levels and to avoid the waste which inevitably attends the unintelligent conduct of economic enterprise. Free competition means a free and open market among both buyers and sellers for the sale and distribution of commodities. Competition does not become less free merely because the conduct of commercial operations becomes more intelligent through the free distribution of knowledge of all the essential factors entering into the commercial transaction. General knowledge that there is an accumulation of surplus of any market commodity would undoubtedly tend to diminish production, but the dissemination of that information cannot in itself be said to be restraint upon commerce in any legal sense. The manufacturer is free to produce, but prudence and business foresight based on that knowledge influence free choice in favour of more limited production. Restraint upon free competition begins when improper use is made of that information through any concerted action which operates to restrain the freedom of action of those who buy and sell.

“ It was not the purpose or the intent of the Sherman Anti-Trust Law to inhibit the intelligent conduct of business operations, nor do we conceive that its purpose was to suppress such influences as might affect the operations of inter-State commerce through the application to them of the individual intelligence of those engaged in commerce, enlightened by accurate information as to the essential elements of the economics of a trade or business, however gathered or disseminated.”

.....

“ We decide only that trade associations or combinations of persons or corporations which openly and fairly gather and disseminate information as to the cost of their product, the volume of production, the actual price which the product has brought in past transactions, stocks of merchandise on hand, approximate cost of transportation from the principal point of shipment to the points of consumption—as did these defendants—and who, as they did, meet and discuss such information and statistics without, however, reaching or attempting to reach any agreement or any concerted action with respect to prices or production or restraining competition, do not thereby engage in unlawful restraint of commerce.”

* * *

The preceding statement is obviously not to be regarded as in any sense a complete survey. No effort, for example, has been made to trace the involutions of policy as affecting patents, the radio industry and certain types of public utilities. The purpose has been, by direct quotation from basic laws and authoritative decisions, to sketch the broad outlines of United States policy on the subject of industrial combinations in general.



Official No. : E. 614.

Geneva, October 1930.

LEAGUE OF NATIONS

ECONOMIC AND FINANCIAL SECTION

REVIEW

OF THE

ECONOMIC ASPECTS

OF SEVERAL INTERNATIONAL INDUSTRIAL AGREEMENTS

Prepared for the Economic Committee

by

M. Antonio St. BENNI (Italy), M. Clemens LAMMERS (Germany),

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Series of League of Nations Publications

**II. ECONOMIC
AND FINANCIAL**

1930. II. 41.

NOTE BY THE SECRETARIAT.

*International
Economic
Conference.*

1. The 1927 International Economic Conference, having made a thorough enquiry into the nature of industrial agreements, adopted the following recommendation :

“ The Conference considers that the League of Nations should closely follow these forms of international industrial co-operation and their effects upon technical progress, the development of production, conditions of labour, the situation as regards supplies, and the movement of prices, seeking in this connection the collaboration of the various Governments. It should collect the relevant data with a view to publishing, from time to time, such information as may be of general interest.

“ The Conference is of the opinion that the publicity given in regard to the nature and operations of agreements constitutes one of the most effective means, on the one hand, of securing the support of public opinion to agreements which conduce to the general interest and, on the other hand, of preventing the growth of abuses.”

*Economic
Consultative
Committee,
1928.*

2. The Economic Consultative Committee, when asked at its session in May 1928 to give its opinion on the best way to carry into practice the desires expressed in this recommendation, stated the opinion that, if the general question were to be approached satisfactorily, a study should be made of the development of these forms of organisation and the legal framework within which that development has taken place. For this purpose, it recommended that the most important international agreements, and also the varied juridical and economic forms which such agreements have taken and the laws by which they are governed, should be analysed and classified. The enquiries of the Economic Organisation of the League should therefore, in the Consultative Committee's opinion, relate mainly to the following points :

(a) The subject-matter and nature of industrial agreements and international cartels, and also their international economic rôle ;

(b) The status and juridical forms of such agreements and cartels, and also the legislation applicable to them ;

(c) The publicity that has been given to them.

*Economic
Consultative
Committee,
1929.*

3. The Economic Consultative Committee, having noted at its second session in May 1929 the difficulties encountered by the Secretariat in endeavouring to collect documentation on the economic aspect of industrial agreements, urged, nevertheless, that the most important information on international cartels should be published. The Committee was of opinion that the Secretariat should secure the collaboration of experts for the study of these complex problems.

*Economic
Committee :
Survey
of the Legal
Experts.*

4. At the beginning of 1929, the Economic Committee instructed three legal experts " to draw up a detailed statement on the character and development of the principles upon which the laws in force in the different countries are based, and, in particular, on the standpoint at present adopted, as expressed, not only in the legislative text, but by jurisprudence and administrative practice". This survey was published in document E.529(1) ¹ It states the personal views of the writers, and is only one among other contributions, past and to come, to the Economic Committee's general work in regard to international industrial agreements.

*Enquiries
of the Economic
Experts.*

5. With regard to the economic aspect of the problem, the Economic Committee, having first consulted two specially qualified experts, M. Benni (Italy) and M. Lammers (Germany), came to the conclusion that the enquiry should be carried out in two stages—an investigation, in the first place, into the effect of agreements on the development of the industry to which they relate and, next, into their effect on the economic system in general.

For the first stage, the Committee considered it necessary to obtain the co-operation of experts who were at present participating, or had actually participated, in the framing or direction of international agreements.

Accordingly, M. Marlio (France), M. Meyer (Luxemburg) and Sir Harry McGowan (Great Britain) joined the two above-mentioned experts.

In accordance with the recommendations of the 1927 International Economic Conference and the Consultative Committee, which advocated a certain amount of publicity in regard to the operations and consequences of international agreements, the industrial experts—with the exception of Sir H. McGowan, who was unable to attend in person, but gave his opinion in writing—drew up, with the assistance of the Secretariat and on the basis of information drawn from the most authoritative sources, the monographs contained in the present publication.

The Economic Committee authorised this publication on the understanding that its writers were responsible for the contents.

The experts intend to make a special study of the general economic aspect of the problem, and possibly to publish further monographs on other important branches of industrial production. They consider that special studies, as full and impartial as possible, are alone capable of providing the necessary data for forming a judgment on the problem as a whole, and in particular on the effects of international industrial agreements on the economic system.

¹ "Review of the Legal Aspects of Industrial Agreements", prepared for the Economic Committee by M. Henri DECUGIS (France), Mr. Robert OLDS (United States of America) and M. Siegfried TSCHERSCHKY (Germany).

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A. PREFACE BY THE EXPERTS

[*Translation.*]

The present work is the outcome of a suggestion made by the Economic Consultative Committee of the League of Nations, which asked the Secretariat to collect information on the present position of the international movement towards industrial concentration and the development of certain important industrial cartels. The Secretariat was authorised to call in the aid of qualified experts. A Committee of Enquiry was accordingly appointed, the members being M. BENNI (Italy), Mr. MACGOWAN (Great Britain), M. LAMMERS (Germany), M. MARLIO (France) and M. MEYER (Luxemburg). The members of this Committee undertook to work together and prepare a description of various international agreements and movements towards agreement, thus contributing to that publicity in economic matters the importance of which was so strongly emphasised by the World Economic Conference.

The general term "international concentration" includes, roughly speaking, any movement towards the co-operation in the sphere of private enterprise, of the industrial and commercial undertakings of different countries for the purpose of improving the organisation of production and marketing. When the World Economic Conference met, it had already been pointed out that the forms taken by this co-operative movement were extremely varied and that the term "cartels", in the strict sense, was quite inadequate to describe the diversity of grouping and methods of such co-operation. Between the mere "gentlemen's agreement" and the fully constituted trust, there are numerous intermediate organisations of which the various kinds of cartels are only a part; moreover, cartels differ greatly among themselves in range and degree of organisation. It is not, then, possible to establish a hierarchy of cartels according to their external form, for the latter gives only an imperfect indication of the economic importance of the cartel.

The international movement towards the creation of cartels is not a post-war phenomenon. On the contrary, it was greatly in favour even before the war. The war put a violent end to nearly all those cartels to which the subjects of opposing States belonged. Similarly, the activities of cartels existing in the different groups of Powers were, generally speaking, very much restricted by the interruption of normal economic relations. After the war, it was necessary both to re-establish former ties and take account of persistent or permanent changes affecting markets. In this connection, the impossibility of forming a clear idea of the conditions of production and marketing in numerous countries caused the constitution of international cartels, which it is not always easy to establish, to lag behind financial co-operation based on movements of capital. The considerable displacement of capital, both in the national and in the international sphere, caused by the war and its consequences, helped to increase monetary fluctuations and thus led to financial agreements which, in their turn, influenced the development of the conditions of production. A good many transactions of this kind escape public notice and, consequently, economic scrutiny. Moreover, the changes undergone by combinations in this sphere are much greater than in that of the cartels, for the usual object of a cartel is to stabilise contractual arrangements for given periods. But it is worthy of remark that transactions affecting capital, even when the cartels are functioning, may have an influence on the cartels themselves.

Quite apart from the existence of capital requiring investment, the difficulties put in the way of commercial exchanges after the war have increased the desire for international agreement. In addition the great progress in technique and science has intensified efforts towards rationalisation, both in the private and in the national economic spheres, and has frequently broken down Customs barriers. Recent traffic developments in particular have shown how desirable it would be to bring together, more rapidly and more closely than in the past, the commercial interests of the various countries. Once associated in this way, these interests have found themselves faced by obstacles due to the official commercial policy of previously-existing or newly-created States. As the efforts made on many sides have almost everywhere failed to put an end to national economic protectionism, certain large private enterprises have attempted to adapt themselves to this situation by reciprocal understandings taking one or other of the many forms mentioned above.

This movement could not fail in time to arouse the strong interest of the public. Moreover, as a consequence of the abnormal events of the war and post-war periods, many nations began to take an interest in economic matters and, in particular, in the character of these great combinations of private enterprises. It would seem also that, since 1914, the authorities in almost all countries have found themselves obliged to give more attention to economic evolution, both from the political point of view and from that of providing adequate satisfaction for the material requirements of the great masses of the population. Now, from this dual point of view, private agreements might be looked on as possessing both advantages and disadvantages. They might, for example, further or, in certain cases, thwart, the commercial policy of various States. Again, by rationalising production and distribution, they might offer considerable advantages to the consumer, or, since they tend to become monopolies, they might be prejudicial to him.

These preoccupations were naturally a purely national matter to begin with, and, for this reason, the question of national legislation on monopolies and cartels was specially raised in several countries ; and, when the peoples of the world were for the first time brought together in an economic conference under the ægis of the League of Nations, they could not neglect the international implications of this movement. During the discussions at the Conference, the most varied opinions were enunciated expressing both fear and hope in this connection, just as they had been on the national plane.

The chief questions then discussed were the following :

Is the international co-operation of private economy still able at the present day to help in stabilising the economic situation and thus re-establishing tranquillity on the markets ?

What, in this connection, are its effects on national commercial and tariff policy, and, conversely, what influence might this policy have on the conclusion of private agreements ?

Is it favourable, from the point of view of world economy and from the national point of view, to a rational satisfaction of the needs of consumers, and does it also lend itself to social progress ?

All these questions raise doubts.

Naturally, the World Economic Conference could not offer a final solution, for that could not be obtained without the systematic collection of detailed documentation and without prolonged observation of current movements. The labours of the Economic Consultative Committee constitute the first studies to the end.

All the documents produced for the World Economic Conference deal with national laws only. The Economic Committee of the League of Nations therefore instructed

a number of experts on these questions to prosecute researches into the subject, and the results of these researches have been published. ¹

The experts' report indicates the state of the law in a number of countries and, as a conclusion, accepts, in principle, the idea of a State control of international cartels. The experts thus think that it would be possible to make these systems of public control uniform.

We hold, as economists, that the time has not yet come for such far-reaching and weighty decisions. We are unanimously of opinion that State control over the numerous forms of national co-operation between private enterprises could only be established in an extremely imperfect form. From the international point of view, the question is essentially a political one. As long as the political and economic interests of the various States are not in equilibrium, there can be no possibility of giving any service an international right of control, or even power to exercise an effective influence on the activity of international combinations. Nor do we think that the introduction of uniformity into national laws, even if it were technically possible, would take us far towards the object which some have in view. Indeed, the chief thing in economic legislation is the spirit and the circumstances in which it is applied ; but it is inevitable that this spirit and these circumstances will necessarily vary according to the domestic political situation, the economic structure and the whole tradition of the different States.

Nevertheless, as we are persuaded of the close solidarity of the fundamental economic interests of all countries, we are happy to see that the League of Nations, the International Chamber of Commerce and the appropriate national organisations appear to be devoting more and more thorough study to the problems to which attention was drawn by the World Economic Conference ; and we also consider that a frank publicity is the best means of combating the erroneous ideas concerning economic concentration and the unjustifiable attacks which are made upon it.

In this spirit, we have been glad to place our services at the disposal of the League of Nations for the preparation of a first publication of this kind. We reserve the right to make a more detailed study, in a special memorandum, of the economic aspect of the problem and more particularly from the standpoint to which prominence has been given in the above-mentioned legal opinion.

(Signed) BENNI.
LAMMERS.
MARTIO.
MEYER.

¹ Publications of the League of Nations : document E.529(1) : " Review of the Legal Aspects of Industrial Agreements ", prepared for the Economic Committee by M. DZCUGIS (France), Mr. OLDS (United States of America) and M. TSCHIRSCHKY (Germany).

B. MONOGRAPHS ON SEVERAL INTERNATIONAL INDUSTRIAL AGREEMENTS.

I. INTERNATIONAL AGREEMENTS IN THE METALLURGICAL INDUSTRY.

[*Translation.*]

During the first years after the war, the total output of steel in Europe was very much smaller than in 1913.

This was due to the destruction of a large number of metal works during the war and also to the shortage of raw materials, especially fuel. Moreover, the market could not have absorbed larger quantities of steel, owing to the slump in the building industry, due to the lack of capital.

The destroyed factories were gradually rebuilt with increased output capacities and, in addition, plant for the manufacture of war material was set up during the war in various countries, so that altogether there was considerable plant available for the manufacture of steel.

The difficulties in obtaining raw materials disappeared little by little as normal work was resumed in the various branches of the industry.

Consumption, which was still hampered by lack of capital, did not keep pace with production and the balance between the two was destroyed. The resultant depression in the metal market prepared the way for the establishment of international agreements in the metal industry.

As long ago as December 1921, negotiations were opened in London between the metallurgists of certain countries with a view to the conclusion of an agreement to regulate the export of rails, the market for which was particularly chaotic and disorganised. Before the war there was an international association—"Irma"—for this product.

After a long interval, these negotiations were resumed early in 1924 and on March 12th, 1926, they resulted in the formation of the *International Rail Makers' Association (Irma)* comprising the Belgian, British, French, German and Luxemburg producers.

On January 1st, 1927, the Central-European manufacturers (Austria, Hungary and Czechoslovakia) joined the Association and, on April 1st, 1929, a new agreement was concluded for six years with the participation of the Steel Export Association, grouping the chief rail makers of the United States of America.

Preparations were made for a second international agreement after the expiry of the period provided in the Peace Treaty for the free entry of Lorraine and Luxemburg steel into Germany. Negotiations were begun in April 1925 at Luxemburg with a view to the future regulation of the export of Lorraine and Luxemburg steel to Germany. These negotiations led to the signature on November 4th, 1926, of a *Convention between German metallurgists on the one hand and French and Luxemburg metallurgists on the other* which was to play an important part in the negotiations relating to the Franco-German Commercial Treaty.

Finally, in February 1926, negotiations for the organisation of the steel output of Europe were opened at Luxemburg. They resulted in the formation of the *International Steel Agreement (E.I.A.)*, which was signed on September 30th, 1926, between the Belgian, French, German, Saar and Grand-Duchy of Luxemburg groups of steel-producers. Producers in Central Europe—Austria, Hungary and Czechoslovakia—joined the Association under the agreement of February 4th, 1927.

It should be noted that the E.I.A. forms the basis of all the special agreements which have been concluded for the production and sale of certain products. The agreement between German and Franco-Luxemburg metallurgists was concluded in conjunction with the E.I.A. and forms an integral part of the steel pact.

In addition to these international agreements, there are others usually relating to a specified product, such as the Machine Wire Agreement, the International Tubes Agreement, the International Agency for the Sale of Cast-Iron in Belgium, etc.

It would take too long to examine all these agreements and we will therefore confine our attention to the most important ones.

Within the scope of this Note, it is not possible to give a complete description either of the organisation or work of the principal combinations which we have just mentioned. We shall therefore summarise them briefly, indicating their economic repercussions and the development which they have undergone.

I. INTERNATIONAL STEEL AGREEMENT (E.I.A.).

The E.I.A. is an arrangement (in the form of a "gentlemen's agreement") for regulating the production of raw steel in the countries parties to the agreement so as to adjust this production if possible to consumption requirements.

Each quarter, the Committee of Directors lays down a tonnage programme for the production of steel, each national group having a quota determined by certain coefficients. Groups exceeding their quota must pay a fine, while those which have failed to complete their quota receive a bonus.

There are also provisions dealing with the limitation of the exports of certain groups.

The E.I.A. does not therefore organise sales or fix the prices of metallurgical products.

- The organisation of the E.I.A. is briefly as follows :

It is formed by the national groups of the participating countries and only recognises such groups as undertake responsibility for the total output of works, whether members of the group or not, operating on their territory. The actual number of non-affiliated works is very small.

The Committee of Directors comprises one delegate from each group, with two deputy delegates attached. The Saar group has no delegate, as its interests are represented by the delegates of the German and French groups.

The agreement actually expired on October 30th, 1929, but was provisionally extended until October 1st, 1930.

In order to ensure the regular operation of the agreement, each group pays a certain sum by way of guarantee.

Supervision over the output of steel is exercised by Swiss trustees.

The statutes provide for the settlement of all disputes by arbitration.

The question arises : to what extent has the E.I.A. contributed to the recovery of the metal market ? At the time of its formation, the market in question was suffering

seriously from lack of cohesion among steel-producers, whose individual efforts to dispose of their output entailed sharp variations in prices and stocks. The result was that customers were constantly forced to speculate on factors which were never stable. Production itself was liable to fluctuations equally detrimental to normal efficiency and to the steady employment of labour. On the whole, it may be said that the operation of the E.I.A. and the contact established between industrial leaders have helped to regulate production and to rescue the market from the chaos into which it had been thrown after the war. Nevertheless, since it is not the object of the E.I.A. to fix the prices of metal products, it could not exercise any direct and decisive influence on those prices. Its object was rather to discipline the steel market by regulating production, so as indirectly to check excessive fluctuations in prices.

It is very difficult to prove to what extent it has been successful as other factors such as the English strike, which terminated at the end of December 1926, the German strike at the end of 1928, etc., have influenced the metal market very considerably.

The diagram on page 14 shows the steel production from October 1925 to April 1930 of countries members of the International Steel Agreement, as well as export prices for merchant steel, which can be regarded as a typical product.

Prior to the English strike, the price of merchant steel was falling and continued to fall during the first months of the strike, although the English output dropped considerably. Two months after the outbreak of the strike, prices began to rise until work was resumed by the English factories. When the latter returned to the export market and endeavoured to recover their former position, a decline in prices set in which lasted until August 1927. From that date onwards they began to rise again very slowly.

The strike in the German works which occurred in November and December 1928 did not affect prices, although the loss of output was considerable.

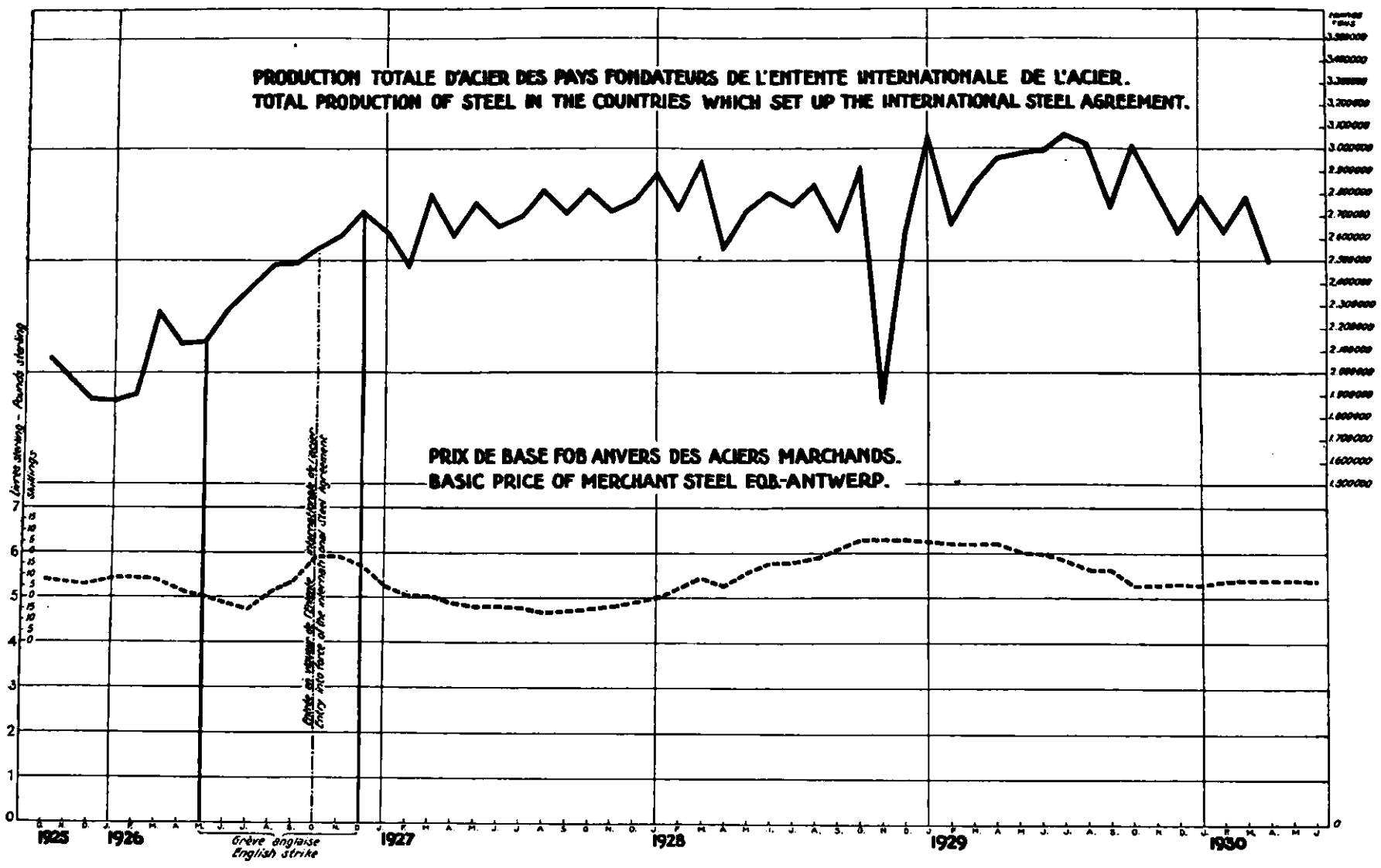
Generally speaking, from the formation of the International Steel Agreement until the end of 1929, the prices for metallurgical products moved slowly, according to the general position of the market, but without any sudden changes.

Since the beginning of the current year, the world-crisis in the metal market has become very serious indeed, and it was thought that the E.I.A. with the means at its disposal, would never succeed in counteracting or even mitigating its effects. Those responsible for the direction of the agreement accordingly decided not to stop short at the regulation of production, but to organise the sale of steel products—a proposal which had been under consideration for some time past. An agreement was concluded between the Belgian, French, German and Luxemburg groups, covering half-finished articles, section-iron, merchant-steel, hoop-iron and heavy sheet-iron. This agreement provided that for a period of six months from February 18th, 1930, an attempt should be made to standardise the prices and conditions of sale of these products and also to allocate export sales on the basis, subject to certain adjustments, of the actual working results during a basis period extending from January 1st, 1928, to October 31st, 1929. The Committee of Directors of the E.I.A., with the assistance of special committees for each product, exercised a permanent control over shipments and sales. Certain penalties were provided for in the case of failure to comply with the rules or decisions.

On March 13th, 1930, a price agreement was concluded with the Czechoslovak, Austrian and Hungarian groups.

The immediate effect of these agreements was to stabilise prices during the first half of the current year, as shown by the diagram on page 14.

The main object was to lead up to the formation of international sales agencies and to ensure that national sales agencies should operate on parallel lines and subject to uniform regulations.



It was not found possible to renew this provisional agreement after August 1st, the date of its expiry, as the rules of these agreements had not been strictly applied owing to inadequate internal organisation in the various groups. As a result, the price of metallurgical products dropped considerably and is at present below cost price. This is an abnormal and indeed intolerable situation ; there is a complete lack of stability in the metallurgical market, which is as prejudicial for the consumer as for the producer. Steps shortly will be taken to introduce some order into the market referred to.

2. CONVENTION BETWEEN GERMAN AND FRANCO-LUXEMBURG METALLURGISTS.

This Convention fixes the quotas of Lorraine and Luxemburg metallurgical products which the German metal industry undertakes to sell to Germany at the German home price, import duties being payable by the Lorraine and Luxemburg works.

In order to explain the scope of the Convention, it is necessary to describe more fully the circumstances which led to its conclusion.

Before the war, Alsace-Lorraine and Luxemburg formed part of the German *Zollverein* (Customs Union). The metal works sent the greater part of their products to Germany ; the German market was their home market. To prevent the Lorraine and Luxemburg industries from being suddenly deprived of their natural market, the Peace Treaty provided that Alsace-Lorraine and Luxemburg products, should, for a period of five years and up to a certain quantity, be admitted into Germany duty free.

The provisions of the Peace Treaty are as follows :

“ Part X, Section I, Article 268 (a) :

“ For a period of five years from the coming-into-force of the present Treaty, natural or manufactured products which both originate in and come from the territories of Alsace and Lorraine reunited to France shall, on importation into German Customs territory, be exempt from all Customs duty.

“ The French Government shall fix each year, by decree communicated to the German Government, the nature and amount of the products which shall enjoy this exemption.

“ The amount of each product which may be thus sent annually into Germany shall not exceed the average of the amounts sent annually in the years 1911-1913.”

“ Part III, Section II, Article 41.

“ Germany undertakes to grant to the Grand-Duchy of Luxemburg, when a demand to that effect is made to her by the Principal Allied and Associated Powers, the rights and advantages stipulated in favour of such Powers or their nationals in the present Treaty with regard to economic questions, to questions relative to transport and to aerial navigation.”

This period terminated on January 10th, 1925.

Notwithstanding all the efforts made by the metallurgical industries in Lorraine and Luxemburg during those five years to find other markets, they were only partly successful, and had German import duties been imposed on the products which they supplied to Germany, this would have seriously interfered with the sale of their goods.

At that time, negotiations were proceeding between France and Germany with a view to the conclusion of a commercial treaty. The French Government was pressing the German Government to reduce import duties on metallurgical products. The German Government was unwilling to agree to this reduction, not only on account of Lorraine and Luxemburg products, but also of the competition of the metal works of other countries such as Belgium, Czechoslovakia, England and Poland, and the conclusion of a commercial treaty between France and Germany appeared to be almost impossible.

It was then that the metallurgical groups of the three countries, France, Germany and Luxemburg, concluded the rationing convention of November 4th, 1926.

The French Government thereupon agreed to conclude a commercial treaty with Germany without any alteration of the old German import duties on metallurgical products.

This agreement between French, German and Luxemburg metallurgists facilitated and, indeed, made possible the conclusion of the Franco-German Commercial Treaty of 1927.

3. INTERNATIONAL RAIL MAKERS' ASSOCIATION (I.R.M.A.).

This is a "gentlemen's agreement", its object being to regulate the export sales of rails weighing 36lb. and over per yard (with the exception of grooved rails for tramways and cranes), fish-plates, chairs and continuous joints.

The home markets of the various countries adhering to it are not covered.

The agreement lays down the rules under which export orders for rails and accessories are divided among the various groups. A special Committee in London, under the chairmanship of a permanent general secretary and composed of one representative of each group, centralises all orders and distributes them among the groups in accordance with a fixed percentage and the preferences of the customer. A group receiving an allocation from the London Committee negotiates the business direct, the other groups binding themselves to take the order only at a higher price. Customers are therefore not forced to apply to a firm which does not suit them; in allocating the order, the buyer's preference is taken into account and in any case he can pass the order elsewhere at the cost of a certain financial sacrifice.

A settlement between the members of the Association takes place every eighteen months. Groups which have exceeded their statutory quotas have to pay the groups which are behindhand a cash balance, the amount of which is fixed by the statutes.

The members of the Association are the national groups of the acceding countries, but there is a special group for the Société Ougrée-Marihaye, which has works in France, Belgium and Luxemburg, while Austrian, Hungarian and Czechoslovak works form a single so-called Central-European group. The Saar works are included in the German and French groups.

The Committee of Directors, composed of delegates from the different groups meets quarterly and directs the whole Association. It appoints a general secretary, fixes the minimum prices and deals with all questions which could not be settled by the London Committee.

No chairman has been appointed, the chief delegate of the country where the meeting is held taking the chair at meetings of the Committee of Directors.

The existence of the International Rail Makers' Association has considerably improved the market in this article, which had, for some years, been in a particularly chaotic condition. Negotiations for big orders for rails are now carried on in a normal fashion and not through intermediaries.

CONCLUSION.

Considering the complete disorganisation of the metal market and the profound changes in economic conditions after the war, it may be said that, on the whole, international agreements have helped to improve the situation during the last few years. Thanks to their influence, the market for heavy rails has improved appreciably and they have facilitated the conclusion of the Franco-German Commercial Treaty.

The International Steel Agreement has regulated the market to some extent and has formed the basis of other agreements which it would otherwise have been impossible to conclude or maintain.

While under its old statutes the E.I.A. was not adequately equipped to deal with a crisis as far-reaching as the one through which we are passing, it is nevertheless capable of further extension, which should enable it to exercise a far more decisive influence on the course of the metal market.

II. INTERNATIONAL AGREEMENTS CONCERNING NON-FERROUS METALS: THE POSITION WITH REGARD TO INTERNATIONAL AGREEMENTS CONCERNING NON-FERROUS METALS DURING 1929 (ZINC, COPPER, TIN, LEAD).

In the following survey we propose to give a brief analysis of the market position in regard to the four following metals : zinc, copper, tin and lead—with special reference to the relevant international agreements.

The survey will show, in particular, the extent to which the factors peculiar to any industry react on the market for its products, and one inevitable conclusion is that there can be no standard formula for industrial agreements ; each combination reflects in its organisation the special circumstances of the industry to which it relates, and its success depends mainly on the extent to which provision is made for the various contingencies.

Zinc. — Marked fluctuations in the price of crude zinc on the British and German metal markets led to the establishment in 1910 of a Federation of the largest zinc-producers. This Federation included Austrian, Belgian, English, French, German and Netherlands companies, having a total output of 485,000 tons—*i.e.*, five-eighths of the world production, in the year the Federation was formed. Only American works remained outside the Federation. At this date, American zinc exports were held to be negligible.

The primary object of the agreement was to secure better prices for crude zinc and to avoid overproduction. The agreement was extended for three years and three months as from January 1st, 1911. It was again renewed in 1914, being subsequently dissolved by the war.

During—and, above all, after—the war, the aspect of the world zinc-market changed completely. The main cause of this change was the considerable increase in the production of the United States of America and Canada. In both these countries, large deposits which are easy to work have been exploited during the last few years, and this metal has come over to flood the European markets, already overstocked.

In the United States of America, consumption has increased steadily during recent years, although production has remained practically stationary. At the present time, the output of 579,000 tons more or less balances consumption, which is 529,000 tons.

Thus, the American zinc industry is entirely self-contained and does not exercise any direct influence upon the world market.

In the United States of America, zinc is protected by an import duty of approximately £7, representing, at present rates, 45 per cent *ad valorem*. This high duty places American mines in a privileged position as compared with most mines in other parts of the world, which are not protected at all or only to a far smaller extent.

In Canada, home consumption is rather low (18,000 tons in 1929), although the output rose from 24,900 tons in 1924 to 78,000 tons in 1929, with the promise of a still higher figure for 1930. The surplus of 60,000 tons, representing the difference between production and consumption in 1929, had therefore to be disposed of elsewhere—*viz.*, in Europe.

In Europe, production, which amounted to 684,000 tons in 1913, rose to 708,000 tons in 1929. The output of Belgium, which is the principal producer, remained almost stationary : 204,000 tons in 1913, 220,000 tons in 1929. The increase is thus very slight and is far below that of the increase in consumption. However, owing to the larger output of new countries—and, in particular, of Canada and the United States of America—Europe, which used to export to those countries before the war, not only finds these markets closed, but even receives their surplus production.

As a result of this situation, negotiations were opened in 1927 between producers—United States producers excepted, since their industry is practically self-contained—with a view to the formation of a new federation to restore the balance between production and consumption. These negotiations progressed favourably, and, in September 1928, it was found possible to conclude a contract—known as Contract A—based on the following principles : No restriction of production so long as zinc quotations were above £24. If the rate fell below £24, European producers undertook not to exceed the amount produced by them during the two months preceding this decline in price.

This contract remained in force until the end of 1928. During this period, the price of zinc remained consistently above the level of £24. There was therefore no reason to restrict production. However, stocks showed a marked tendency to increase. They rose from 17,868 tons on May 1st to 27,947 tons at the end of December. In view of this increase, it was decided to replace Contract A by a new Contract B, which came into force on January 1st, 1929. The latter provided for closer co-operation between European producers, the restriction of Canadian and Australian exports, and a limitation of production should the price fall below £27 a ton. The weak point in this agreement was that it had to be renewed every three months, which was obviously too short a period to inspire producers with any confidence.

On account of the Sherman Acts and of the self-contained character of the United States zinc industry, it was not possible to conclude a general agreement with the latter. Some partial agreements were, however, drawn up, chiefly with companies having interests in the Mexican zinc industry.

Even the restrictive measures laid down in Contract B proved to be powerless to stabilise the zinc market during 1929.

There was a further meeting of producers at the end of 1929, with a view to the renewal of Contract B. However, the demands of overseas producers with regard to quotas and questions of duration made the renewal of the cartel impossible.

Not all the European zinc-producing countries are equally interested in the re-establishment of the cartel. Poland and Belgium, which need to export large quantities, are much more interested than France, Germany and Great Britain, whose home market can readily absorb an enormous quantity of zinc.

According to the most recent information, a new cartel is about to be formed comprising all the important producers in the world, with the exception of those of the United States of America. All the members are to obey the same rules as regards restrictions, whereas, previously, only European producers undertook to restrict their output, the others merely entering into commercial agreements.

Copper. — The copper market is one of the most closely controlled markets, since the Copper Producers' Association controls approximately 90 per cent of the world output.

The formation of this cartel was decided upon owing to the considerable fluctuations in the margin between the supply and demand of copper during and since the war. After the boom in copper produced by war requirements, consumption

fell sharply during the first five years after the war. From 1923 onwards, consumption began to increase considerably and rose from year to year, almost unlimited prospects being opened out by the worldwide use of electricity. At the same time, production was expanding considerably, not only on account of the growing demand, but also owing to the great improvements in the technical processes of manufacture. This impetus has, however, suffered occasional setbacks, resulting in enormous fluctuations in the market prices. This state of affairs led to the proposal to create an organisation for the purpose of balancing production and consumption so far as possible.

The outcome of the proposal was the formation, in October 1926, of the Copper Exporters, Incorporated.

Thirty-two undertakings are members of the Copper Exporters, eighteen being American and fourteen non-American. There are four main groups of producers. The first group consists of the Anaconda Copper Mining Co.—*i.e.*, the Rockefeller-Ryan group with the companies which it controls ; its annual output is approximately 250,000 tons. The second group is the Kennecott Copper Corporation, its annual output being some 230,000 tons. The third group consists of the Phelps Dodge Corporation, whose production is 100,000 tons. The fourth group is the American Smelting and Refining Co., known as the Guggenheim group. The cartel includes non-American producers, among them being the Rio Tinto Co., with an annual output of 50,000 tons of copper ; the Union Minière du Haut Katanga, with an output of some 200,000 tons ; the Chile Copper Co. and the Green Cananea Copper Co. These last two companies are controlled by Americans.

The cartel only regulates the output of refined copper, which consists chiefly of electrolytic copper.

The producers of refined copper, like the producers of various other non-ferrous metals, may be divided into two main categories :

(1) The refiners known as “ producers ”, who own mines from which they obtain their blisters.

(2) The refiners known as “ purchasers ”, who do not own mines but purchase their blisters for refining from the former.

It is important to bear this distinction in mind, as it explains certain difficulties which have arisen in the cartel during the last few months.

The main objects of the copper cartel are as follows :

A. The chief function of the cartel is to regulate trade. It does not restrict the output of its members. This would not have been compatible with the Sherman Acts in force in the United States, which alone produce 55 per cent of the world output.

The cartel, through its headquarters in New York or its central office in Brussels, which deals with European transactions, merely centralises the sales made by the whole body of producers and allocates them according to fixed rules. Each member thus receives for a given period a proportion of world orders corresponding to the quota assigned to him. When there is a falling-off in consumption, each producer decides for himself whether it is best for him to reduce his output so as to keep this on a level with his sales, or to go on producing and accumulate stocks.

B. The cartel, through the selling agencies of its various members, sells to metal consumers only, all middlemen being excluded ; its object is to eliminate speculation on the part of the latter.

C. The cartel aims at stabilising the prices of copper and preventing the daily variations which occurred when the market was free and was subject to the fluctuations of the London Metal Exchange.

Having thus outlined the cartel's organisation and objects, we will now examine the results of its action and see how far it has achieved its purpose.

Shortly after the formation of the cartel (end 1926-beginning 1927), prices fell from 14 cents 40 to about 12 cents 25. This drop was justified both by the impossibility of keeping up the rates owing to the size of existing stocks and by the fact that the London market immediately took up arms against the cartel.

The formation of the cartel on the above-mentioned lines provoked vigorous opposition on the part of all merchants and organisations grouped around the London Metal Exchange. The cartel was regarded, not without reason, as an organisation which might deprive London of its position as the principal copper market in the world, and consequently reduce the profits of all associations and individuals dealing on the London Metal Exchange.

The first bout was won by the cartel, which was soon in a position to raise prices, first to the original figure—*i.e.*, 14 cents, about February 1927, and, by successive stages, to the level of 18 cents in February 1929.

A tremendous advance in prices then took place, brought about by the period of intense activity which occurred in the United States during the whole of the first part of 1929. It is probable that the cartel endeavoured to check this rise, although without success. In the course of a few days, in March and April 1929 the price rose to 24 cents. This figure was only maintained for a short time, and the price soon fell to its former level of 18 cents.

Stabilisation was the second stage, and from April 1929 to April 1930 the price was strictly maintained at 18 cents.

There are several reasons why this stabilisation did not last longer. As they are not without interest, we will proceed to analyse them.

The first cause was the crisis in the United States, which began in November 1929, and brought about a sudden and considerable decline in the consumption of copper. Before producers had made up their minds to reduce output, considerable stocks of metal had accumulated. The result was that speculators, encouraged by the fall in all raw materials, turned their attention to copper and opened a bear campaign on the London Metal Exchange ; this brought about an appreciable fall in the price of standard copper and an enormous discrepancy between the quotation for standard and for electro, the latter remaining more or less at the price fixed by the cartel.

A second circumstance of an internal nature influenced the situation at the same time : owing to the persistent selling at a loss caused by the general mistrust of buyers in view of the violent fluctuations of the London exchange, stocks were gradually accumulating. The finances of all refiners were depleted, but the position of " purchaser " refiners became particularly dangerous. They continued to buy their blisters on the basis of the nominal quotations for electro, but were unable to sell the electro they produced, and, in the event of a further fall, were likely to sustain a heavy loss. Considerable differences of opinion arose in the cartel, and, notwithstanding various measures taken by producers to assist purchasers, the size of stocks and the risks became so great that, in April 1930, the cartel was obliged to introduce much lower rates. In twenty-four hours the price fell from 18 cents to 14 cents—*i.e.*, by 22 per cent.

This fall marks the beginning of the third stage of the cartel's existence, from which it had not yet emerged when this was being written. For the time being, the

cartel has ceased all attempts at stabilising prices, and is endeavouring to promote the recovery of the market by the absorption of stocks. Prices are subject to violent fluctuations. A fall, followed by an upward curve, resulted in heavy purchases in May, a large part of the stocks being transferred to consumers. This movement was not, however, sufficient to prevent a further drop, which brought the price down to 11 cents—a figure which had not been reached for more than twenty-five years.

The cartel, pending better days, can at least hope that this tremendous fall will discourage ill-equipped producers, of whom there were a great many at the time when prices were high.

It is still too soon to pass a final judgment on the work of the copper cartel. Considering the special position of the copper market it may, however, be asserted that both producers and consumers have benefited, as a result of the cartel by a period of fairly stable prices. On the other hand, the market was completely disorganised by the enormous fluctuations which preceded and followed the period of stability. It is highly probable that the cartel did not approve of the rise which took place in April 1929, but was unable to prevent it. It is also probable that it endeavoured to check the fall at the end of 1929 and the beginning of 1930, but was not successful in this case either. Perhaps, too, it under-estimated the psychological and material factors which make the position of the London Metal Exchange a very strong one, and enabled the latter, favoured by circumstance, to win the second round of the fight.

Tin. — The proposal to form a tin cartel originated in England. As is well known, the British Empire furnishes the largest supplies of this metal. Tin prices have fallen considerably during the last few years. They dropped steadily for a year and a-half—namely, from January 1st, 1929, to July 1st, 1930, and fell from £225 to £131. It was even said in England that this fall in prices was leading to over-selling, and to the rapid exhaustion of the British Empire mines. This statement is probably exaggerated. Nevertheless, it is obvious that an improvement in tin prices would be of the greatest benefit to British producers, some of whom are at present in a critical situation, and are, on that account, endeavouring to form a world tin cartel. Their chances of success are, however, very slight, partly owing to the large number of small or comparatively small tin producers, and also to the very great difference in the cost of production. For instance, the Belgian group, "Géomines", which works deposits in East Africa, would be able to make large profits at prices which would represent a loss for many other producers.

The British Tin Producers' Association held a meeting on November 26th, 1929, with a view to deciding upon the restriction, if necessary, of the world production of the metal. Sir Philip Cunliffe Lister, former President of the Board of Trade, was in the chair. A hundred delegates were present, representing some one hundred and sixty tin-mines, nearly all situated in the British Empire.

A very short communiqué was issued to the Press. According to this communiqué, the Association unanimously adopted the restriction scheme proposed by the Executive Committee, and authorised the Committee to take the necessary steps to bring it into application. The object of this scheme is not to restrict the extraction of the ore; the mines will continue to produce as much as they wish, but foundries and refineries must keep in reserve 10 per cent of the ore which they obtain.

These measures, which do not apply to all producers and which, even in the case of those whom they affect, do not involve the regulation of the output of the mines, would appear to be altogether inadequate for the stabilisation of the tin market.

A holding company recently formed in England has absorbed the three largest English foundries in addition to an important foundry in Malaya. This combination will doubtless facilitate future measures for the recovery of the tin market.

Lead. — During the last few years, the lead industry has developed on very similar lines to the zinc industry. This is partly due to a technical reason, both lead and zinc ores being extracted from many mines, so that the prices of these two metals are to some extent correlated.

Important new mines have been discovered in Canada, Mexico, Australia and India. These mines were soon put into operation, and have begun to contribute a considerable share, amounting to about 35 per cent, to world production: The following statistics relate to these four countries :

	1919 Tons	1924 Tons	1929 Tons
Australia	84,000	127,000	176,000
Canada	20,000	78,000	144,000
India	19,000	52,000	51,000
Mexico	78,000	161,000	248,000

As the home consumption of these countries is very small : 35,000 tons in Canada, 19,000 tons in Australia, or is even negligible, as in Mexico, their surplus output has been placed on the European markets. The latter, however, already had their own production to dispose of : 235,000 tons in 1919 and 418,000 tons in 1929.

The United States of America have steadily increased their production to meet home consumption, as shown by the following figures :

	1919 Tons	1924 Tons	1929 Tons
Production	412,000	535,000	624,000
Consumption	424,000	557,000	659,000

The position during the last ten years has thus been as follows :

The United States of America, responsible for one-third of world production and consumption, represent, as it were, a closed territory. This has been made possible by the application of a protective duty of approximately £9, or 50 per cent *ad valorem*.

Consequently Europe has been placed in a similar situation to that prevailing, as already mentioned, in the zinc market ; it has been supplied not only by its own production but also by the surplus output of new countries. The production of those countries soon exceeded their home requirements, and they sent to Europe more metal than it could consume. On this account, and as the result of the world crisis, prices have fallen considerably.

This fall was, however, less pronounced than in the case of certain other metals—partly owing to the fact that lead prices never rose to an excessively high level, as was the case with copper prices, and also because the increased use of underground electric cables gave rise to a much larger demand for lead.

In view of the continued fall in prices, producers have endeavoured to come to an agreement to maintain and regulate quotations.

An agreement of this kind is particularly difficult to conclude, because, although there are some large producers in the lead industry, there are also a very large number

of small mines in all parts of the world which sell their ore to one or the other, and it would be very difficult to impose restrictive measures on these latter.

Notwithstanding these difficulties, the principal producers have recently formed a pool controlling approximately 80 per cent of the production of the foundries, but not of the mines. It is too soon as yet to form any opinion as to the services which this organisation may render.

III. THE EUROPEAN ALUMINIUM CARTEL.

[*Translation*]

The co-existence of four conditions tended to facilitate the constitution of the Aluminium Cartel.

(1) The production of aluminium is distributed among a relatively small number of manufacturers. This is due to various reasons, chief among which is the fact that the manufacture of aluminium necessitates a very big capital outlay. Bauxite mines have to be acquired—this being the only mineral actually used for the purpose—these mines have to be exploited, and plant must be set up for transforming the alumina into aluminium. The last process involves a tremendous consumption of electric power, which is generally produced by waterfalls.

The total costs attaching to the mines, alumina factories, waterfalls and aluminium factories are high, especially as reasonable production-prices can only be obtained by operating with a big tonnage.

(2) The producers manufacture a product of uniform quality, aluminium being a specific metal whose current commercial grades come within the limits of a 98.5 to 99.5 per cent content, so that it may be regarded indeed as a unique product—a condition notoriously favourable to the constitution of a cartel.

(3) Heavy goods can, as a rule, be utilised only within a limited area, the relatively high costs of transport rendering them prohibitive in price elsewhere. The result in the case of such goods is the establishment of a sort of regional monopoly. Aluminium, however, is a fairly expensive metal—somewhere in the neighbourhood of 12 francs per kilogramme—and the transport makes very little difference to the cost-price in any particular place. Aluminium-producers are thus free to compete with one another in all markets, and the absurd anomaly sometimes presents itself of one producer selling, for example, in the vicinity of a rival's centre, and *vice versa*.

Being unable, therefore, to count on any regional protection worth speaking of, as a result of transport costs, the aluminium-producers came very naturally to conclude contractual agreements ensuring regional protection by some other means.

(4) The aluminium industry is comparatively young, dating only from the closing years of the last century; it is in full process of development—the world output in 1912 was 62,000 tons and in 1929 amounted to 225,000 tons—and is making further progress every day, particularly in the matter of alloys; it is bound up directly with the evolution of other young industries (electrical, aeronautical, automobile, etc.) and those responsible for its direction, having no established formulæ naturally tend to adopt a bold policy and to employ the most modern business methods.

Working Regulations of the Cartel.

Agreements already existed before the war between the national producers—few in number—found in any one country, and there was even an agreement between the different European producers. This, however, was broken up by the war.

After the war, the situation had altered very considerably. Certain countries, such as France, had had to increase their plant to meet the requirements of national defence; others, such as Germany and Italy, had set up an entirely new aluminium

industry within their own frontiers. Those responsible for army work had accumulated big stocks of the metal, and some time elapsed before they could regain their equilibrium. Hardly had they done so, when they were faced with the economic crisis of 1921. It is at such times that one realises most clearly the expediency of coming to an understanding and offering a united front in the face of common difficulties.

These various reasons led European producers to get into touch with one another, to exchange views on the future of their undertakings, and to realise the advantages of organisation.

The first agreement, confined to prices, was negotiated in 1923, being followed, in 1926, by a more comprehensive agreement, the main features of which are given below ; this was concluded for an initial period of two years—*i.e.*, until December 31st, 1928, when it was renewed for a further period of three years.

The Aluminium Company of America, for legal reasons peculiar to the United States of America, has hitherto felt obliged to remain outside the agreement. It is unfortunate that Aluminium, Limited—a company of independent legal status and which controls all the factories of the same group operating outside the United States—should have felt called upon to adopt the same attitude.

Objects of the Cartel.

According to Article 1 of the Agreement of the Aluminium Association, the objects of the cartel are :

“(1) To regulate and control the aluminium sales of each of the members, more particularly by the exchange of commercial information in their possession.

“(2) To promote, by all means and in conjunction with consumers, the more widespread use of aluminium.

“(3) To supply the customers of every member with the quantities and qualities of metal requisite for his needs.

“(4) To reduce to a minimum general costs and transport costs.”

The agreement provides for the control of the sales of members on the basis of a quota allocated to each. The quota covers sales on the home market and export sales (except to North America) ; it applies to aluminium properly so-called and all its alloys, only the aluminium content of the latter being taken into account. Each producer reserves the right to give his home market priority. A quarterly examination is made of every member's sales, and if these do not correspond to the quota allocated, an equilisation is carried out (as between the excess and deficit quota sales).

The agreement also provides for the fixing of a standard price, determined by the quality of the metal delivered, according to a scale established by the cartel. This is a uniform price applicable to all consumers in every country, irrespective of transport costs. In countries, however, where aluminium is dutiable, the purchaser has to pay the Customs duty, which is thus tacked on to the standard price.

The increase in respect of Customs duty applies only to aluminium imported into non-producing countries. It does not affect sale prices in producing countries.¹ Thus, in France, the price is the same as the standard price, and not the standard price plus all or part of the Customs duty. The Customs duty does not involve any charge

¹ This applies only to Europe, and no longer to America, which does not belong to the cartel. The American home prices are higher than the standard prices.

on the consumer, but is none the less of importance from the standpoint of the producer, in that it protects his home market.

Effects on Manufacture.

(1) Experience has shown that, while the sales of any one member alone may vary very considerably from one year to another, the sales of all the associate members together exhibit a much greater regularity (except, of course, in the case of general economic depression, such as occurred in 1921).

The movement of sales for the producers as a whole is much more regular than in the case of single individuals. Whereas, in the absence of an agreement, each producer would have to allow, in any extension of his plant, for a margin of security to cover possible fluctuations in his own individual sales, the cartel requires a much lower margin than the sum of security which would have been required by each of its members acting separately.

The fact of the margin of security being reduced is very advantageous from several points of view : smaller stocks are required, which means a lightening of the financial burden ; the plant can be kept going more regularly, without being obliged to follow exactly the fluctuations of demand ; more regular use of the plant permits of better manufacturing conditions and, above all, makes it possible to employ a more stable staff of workmen ; it also means that accurate programmes of manufacture can be drawn up covering a long period, and this is of very great importance, in view of the length of time necessary for setting up plant and the expenditure which it involves.

(2) The cartel endeavours to forecast or attenuate crises, of whatever origin, among producers or consumers.

For example—in 1929, owing to an exceptionally dry year, the electric power output of one of the associates was much smaller than usual, and it was unable to carry out its programme of manufacture. The other associates which were not affected by the crisis had no difficulty in supplying it with the tonnage it required to fulfil its obligations and keep its customers.

Again, in the case of a consumption crisis, the exchange of information between the commercial services of members of the cartel shows at once what is happening on the markets and measures can at once be taken to remedy the situation. Sometimes, when the difficulty is peculiar to certain countries or certain manufactures, some modification of the usual sale conditions, for example longer credits or special prices for certain purposes, is sufficient to meet the difficulty. If, however, the situation is of a general character, measures of a general character must also be resorted to. If consumption shows a rapid upward tendency, means of production must keep pace. If, on the contrary, there is a decline in consumption either output must be reduced proportionately or there must be a general lowering of prices.

(3) The cartel endeavours to standardise the products offered to consumers.

Results for Consumers.

The constitution of the European aluminium industry into a cartel has proved most beneficial from the standpoint of customers.

All customers are now on a footing of perfect equality, they are certain of getting supplies, whatever the size of their orders or the date on which such orders are given,

and they can obtain practically fixed prices : this enables them to reduce their material in stock to a minimum, to make out fixed estimates and to accept long-term orders, without any fear of losing their margin of profit as the result of an unexpected rise in prices.

In addition to other considerable advantages to customers, not only have the prices fixed by the cartel been extremely stable, but the only two modifications since its constitution have been in the nature of reductions—a most unusual position. When the cartel was constituted in 1926, the standard price was £118 per ton ; it was reduced in September 1926 to £105 and in May 1928 to £95, at which price it has remained. These two successive reductions were made possible by the improvements in manufacturing processes introduced during the last few years, and by the reduction in general costs resulting partly from increased sales and partly from the systematic elimination of all unnecessary expenditure.

Such a price policy is not only justifiable in itself, but has the advantage both of preventing rivals from drawing away customers from the cartel and of checking the growth of latent competition, that is, the competition of newcomers who might be tempted by the existence of very high profits to set similar industries, either for purposes of sale or for their own consumption requirements ; lastly, this policy guards against any prejudicial increase in the use of substitutes.

Results of the Cartel on Sales.

(1) The organisation of the cartel has made it possible to reduce the number of representatives and middlemen and hence the total incidental expenditure.

(2) The constitution of the cartel has done away with sales of metal between producing countries, which necessitated the payment of Customs duties and transport charges that were quite unnecessary and sometimes ridiculous—as, for example, when transports were proceeding simultaneously in exactly opposite directions.

(3) The cartel has practically put an end to dumping, by fixing a uniform price for aluminium sales on all the producing and non-producing markets. This has meant the disappearance of the anomaly of consumers near the producing works having to pay more for the metal than consumers at a distance. At the same time, the rules adopted by the cartel are such that consuming and non-producing countries cannot complain of being ill-treated, since there is a uniform sale price which includes delivery at the consuming works, so that consuming countries do not have to pay transport costs and are thus just as well off as if they produced the metal themselves.

(4) For propaganda purposes and with a view to carrying on the campaign as economically as possible, a few years ago, the European cartel set up a joint propaganda office, the " Bureau international d'études et de propagande pour le développement des emplois de l'aluminium ". This office collects all information both technical and commercial, of interest to members of the Association.

It convenes periodical meetings of the representatives of each company and publishes pamphlets, pictures, etc. It deals with all questions of publicity and propaganda of common interest to the associates.

IV. THE EUROPEAN MERCURY CONSORTIUM.

[*Translation.*]

It is common knowledge that mercury deposits are found in comparatively few countries, almost the entire production of this metal being, indeed, accounted for in actual practice, by only four nations, namely Spain, Italy, the United States of America and Mexico. It should be borne in mind, moreover, that the productive capacity of these countries, far from being the same, differs greatly, and that Italy and Spain hold an undisputed position, these two countries producing at the present time approximately four-fifths of the total quantity and enjoying a real monopoly in Europe in this respect.

This may be easily appreciated on examining the following table, which gives the figures for the world extraction of mercury (in tons):

Year	Spain	Italy	United States of America	Mexico	Other countries	Total
1913.	1,246	1,004 ¹	688	166	920 ²	4,024
1923.	1,145	1,656	270	45	112	3,228
1924.	899	1,641	343	37	156	3,076
1925.	1,277	1,834	312	39	171	3,633
1926.	1,594	1,871	260	45	161	3,931
1927.	2,492	1,996	384	81	140	5,093
1928.	2,195	1,795	573	87	237	4,887

The figures just quoted not only illustrate the distribution of the production of the metal between the principal producing countries, but also clearly demonstrate the tendency, which is obvious in comparison with the pre-war period, towards concentration of production to an increasing degree in the hands of Spain and Italy. Indeed, while in 1913 the production of these two countries only accounted for 55.6 per cent of the total production, by 1928 this proportion had risen to 81.6 per cent.

It must, however, be observed in this connection that this tendency towards concentration was considerably increased by the transfer of the ownership of the Idria Mines from Austria to Italy, in execution of the Peace Treaties.

It may be assumed that the small number of producers, and also the uniform quality of a product, the characteristics of which are well-defined and known, were, in themselves, favourable conditions for the setting up of the European mercury cartel.

With this end in view, negotiations were opened between the representatives of the Italian and Spanish producers, with the authorisation of their respective Governments. An agreement was finally reached at Madrid on April 28th, 1928, between the representative of the Almaden mines and the representatives of the Italian mines. On August 23rd, 1928, this agreement was accepted by the group of Italian mines, namely, the Monte Amiata, the Siele Mine, the Società Mercurifera Italiana and the Idria Mine, belonging to the Italian State, and the establishment of the "Mercurio Europeo Consortium" was begun on October 1st, 1928.

The chief aim of the cartel, apart from the fixing and stabilisation of prices, was to abolish any cause of unduly keen competition between Italy and Spain. Such competition would certainly have proved highly detrimental to the interests of the industries of these two countries, as it had already done, on account of ultimate over-production and a consequent fall in prices.

¹ Excluding the production of the Idria Mines (465 tons) which belonged at this date to Austria-Hungary.

² Including the production of the Idria Mines.

Among the members of the Consortium, Italy is represented by the Idria mines, which are owned by the State, the Monte Amiata Company, the Siélé Mining Company and the Società Mercurifera Italiana—certain other undertakings of altogether secondary importance remaining outside—and Spain by the Almaden Mines, also State-owned.

It was agreed that the cartel should continue for a period of ten years as from October 1st, 1928, but it may be dissolved after six years. The cartel is directed by a Chairman and by a Board, to which each of the two contracting parties is invited to send an equal number of representatives. It was decided that the Chairmanship should be entrusted each year to a representative of Italy and of Spain alternately. On the proposal of the Spanish producers, M. Salvadori, managing director of the Monte Amiata Company, and the principal negotiator of the agreement, was elected Chairman for the first period. The Chairmanship is now held by M. Lara y Mesa, Chairman of the Board of Directors of the Almaden Mines.

It was also agreed that the sale of mercury should be regulated and allotted in the proportion of 55 per cent to Spain and 45 per cent to Italy, for the first three years, and of 60 per cent and 40 per cent respectively for the following years.

This system of distribution did not, however, include the Italian and Spanish markets, which were, as before, reserved for the industries of the respective countries. In order the more easily to introduce this regulation, a single sales distribution office was set up, and began work on October 1st, 1928.

This office, which was established at Lausanne, has as its special duty the distribution of the sales of the metal between the different mines which actually sell the metal, within the limits laid down in the above-mentioned quotas.

It should, however, be observed that, immediately after the cartel had been set up, there was a falling off in the sales, caused by the attempt of international speculators to influence the prices of the metal by throwing all available stocks on the market. This attempt did not, indeed, produce any concrete result and, after a few months, sales reverted again to their normal level.

Among the steps taken by the cartel, special reference may be made to the opening of a competition in which a cash prize of £5,000 is offered to any person discovering a new way of employing mercury on a large scale.

The Consortium, which, at the outset of its work, fixed an official price for mercury lower than that actually obtaining on the market (£21 15s. *od.* f.o.b., per 34.5 kilogram pot) thus won its first—and an important—success, by removing the violent fluctuations to which the price of the metal was subject. That this was really the case may be seen merely by examining the minimum and maximum prices noted in London for each year since 1919.

Year	Minimum Price			Maximum Price		
	£	s.	d.	£	s.	d.
1919.	16	0	0	24	10	0
1920.	14	0	0	27	0	0
1921.	9	10	0	12	15	0
1922.	10	7	6	13	7	6
1923.	8	15	0	12	10	0
1924.	9	15	0	14	15	0
1925.	13	2	6	15	0	0
1926.	14	0	0	17	5	0
1927.	17	0	0	23	15	0
1928.	22	0	0	25	10	0
1929.	22	0	0	23	5	0

It is hardly necessary to point out that, in 1929 (the first year of the Cartel's activities), the variations in the price of mercury were, for the first time, kept within narrow limits, since these variations were due to the sale of small quantities, the Consortium having always maintained unaltered its price of £21 15s. 0d.

It may therefore be asserted without over-statement that, on account of the agreements that have been reached, the mercury industry may rely upon a long period of settled conditions, and consequently, upon the necessary means for continuing its upward tendency, a tendency which will certainly set in as a result of the removal of all causes of competition and the final stabilisation of the price of the product.

This short statement will perhaps be enough to give a general idea of the importance of the agreement between the Italian and Spanish producers.

In view of this agreement, the mercury market may be regarded as finally regulated and controlled. Both the industries producing the metal and those consuming it must certainly have benefited greatly by this change in the situation.

V. THE FRANCO-GERMAN POTASH AGREEMENT.

[*Translation.*]

The agreement between the German and French potash industries affords a perfect example of international co-operation based upon private agreement.

A few preliminary particulars of a politico-economic character will help towards the better understanding and appreciation of this agreement.

The centres of the potash industry are in North Western and Central Germany and on both banks of the Upper Rhine, in Upper Alsace, and in Baden. The raw materials upon which the potash industry is based are the potash salts (salts of potassium—alkaline metals and the chemical element) and mainly the crude salts. The conversion of these salts furnishes, among other products, the potash manures which, with their high percentage of fertilising substances, are of such importance to agriculture.

When the great economic value of potash salts was first recognised, the two producers at that time (the State mines at Stassfurt and Leopoldshall) decided upon a rather loose form of co-operation. These agreements were followed in 1876 by a Convention between the potassium chloride factories (relating to the observance of fixed prices), which only remained in force until 1879, when it was replaced by the first cartel.

The extraction of potash salts, which had hitherto been restricted to the original Stassfurt district, developed enormously as time went on. Owing to the unrestricted increase in the number of mines affiliated to the syndicate, and in spite of the efforts made to create fresh markets, serious difficulties arose necessitating legislative intervention. A Reich Potash Law of May 25th, 1910, fixed maximum prices for sales in Germany. In consequence of radical defects in the law, new works continued to spring up, and, shortly before the war, there were altogether 164 potash mines in Germany. After the war (1919), a new "Law for the Regulation of the Potash Industry" was promulgated, which grouped the German manufacturers of potash within a single association, called the "German Potash Syndicate". Further decrees of 1921 and 1924 provided for the closing down of shafts. These measures aimed at restricting the production of German potash to efficient works to the exclusion of all unrationalised businesses.

Henceforward effort was directed towards restricting the machinery of production to the best potash deposits, and towards providing the works with all the resources of modern technique. Small businesses combined to form strong companies with plenty of capital (about twelve of them), which soon decided to close, in favour of the better mines, those works which were less efficient (owing to unsatisfactory conditions of work) or concerns which did not pay owing to the inferior quality of their salt deposits. The transfer of selling quotas to certain mines made very much larger demands on the efficiency of individual works, and this necessitated improved methods of work and better plant.

This development is reflected in the following statistics :

PRODUCTION OF POTASH SALTS IN GERMANY.

1885.	925,000 tons
1905.	5,043,000 "
1925.	12,085,000 "
1928.	12,488,000 "

The organisation of the German potash industry to-day is based upon the Law, already mentioned, for the Regulation of the Potash Industry (April 1919), which united all producers of potash within a syndicate known as the German Potash Syndicate (a limited liability company).

The German Potash Syndicate is the organisation responsible for all sales in Germany and abroad. An important organ of this syndicate is the Scientific Agriculture Section, which has furnished detailed and practical information on the importance of potash fertilisers and has given a wide publicity to the best means of using artificial manures, with the result that to-day the world consumption of potash salts amounts to millions of tons a year.

A potash research institute serves for the scientific study of manufacturing methods, the discovery of new processes and how to apply them to the industry. An agricultural experimental station carries out experiments in agricultural chemistry.

The far-reaching rationalisation of the potash works, which have now attained a high standard of technical perfection, and the scientific organisation of the processes applied, have solved the chemico-physical problems relating to the manufacture of potash salts. In future, therefore, we may anticipate that the activities of the potash industry will extend to chemical manufactures in general, to which the potash industry has so far only supplied the raw material.

The development of the potash industry in Alsace dates back to the period of German sovereignty. In 1904, deposits of potash salts were discovered in the district of Wittelsheim, in Upper Alsace. Of the fourteen companies working potash mines, ten belonged to Germans, the rest were in Alsatian or French hands.

As from the day of the Armistice (November 11th, 1918), the ten concessions operated by the Germans were liquidated in conformity with Article 4 of the Treaty of Versailles. The French Government acquired the potash mines under the Law of March 26th, 1921. Since January 1st, 1924 the deposits have been worked by the Government under a company known as the " Mines Domaniales de Potasse d'Alsace ". The concessions operated by the Sainte-Thérèse groups remained the private property of the " Société Anonyme des Mines de Kali Sainte-Thérèse. "

The two companies in question are the only ones operating potash mines in France. A third company, Blodelsheim, holds a concession. Unlike Germany, France has enacted no special laws on potash. A bill is at present before the Chamber which will have the effect of conferring a sort of monopoly on the existing firms in France. The economic organisation of the industry is entrusted to a single commercial body called the " Société Commerciale de Potasse d'Alsace ". The duties of this company consist in popularising the use of potash as a fertiliser, and in selling potash products within the country and in foreign markets. The following statistics show the output from the Alsatian potash deposits :

1919.	94,189 tons
1925.	303,385 "
1928.	427,997 "

The total German output of potash satisfies three-quarters and, together with the French output, about nineteen-twentieths of world requirements.

During the first five years following the separation of Alsace from Germany, the two industries had no relations with one another, but this opposition and severance soon led to an intolerable state of affairs. The prices which Germany obtained for her potash steadily declined and became more and more unremunerative. Foreign sales fell as follows :

QUANTITY OF GERMAN POTASH SOLD ABROAD.

	Metric quintal	Percentage of total sales
1913.	5,060,866	45.6
1922.	3,319,620	25.6
1928.	5,540,980	38.9

The French manufacturers were less concerned for the financial results of their operations, as the State gave them adequate support. Nevertheless, they, too, found that the time had come to strike the balance of this unbridled competition.

Neither party could hope that, in the long run, this competition between the two industries could improve the situation. Accordingly, it became the aim of the German and French potash industries to create, by an agreement concerning the world potash markets, the peaceful and stable conditions absolutely necessary for both parties. In 1924, the first attempts were made to arrive at an agreement between the German Potash Syndicate and the Alsatian manufacturers.

After long negotiations between the representatives of the potash undertakings concerned, the arrangement of Lugano was concluded on April 10th, 1926. A definitive agreement was signed in Paris on December 29th, 1926, between the German Potash Syndicate, Limited, Berlin (hereinafter referred to as the "Syndicate"), of the one part, and the "Société commerciale des potasses d'Alsace", of Mulhouse and Paris, the "Mines domaniales de potasse d'Alsace", of Mulhouse, and the "Société anonyme des Mines de Kali Sainte-Thérèse", of Mulhouse (all hereinafter referred to as the "Société"), of the other part.

In its first article, the agreement appears as a purely territorial cartel : The Syndicate has the exclusive right of sale within the German Reich and in any German colonies, protectorates or mandated territories, while the Société has the same exclusive right to sell in France and in the French colonies, protectorates and mandated territories. Both parties pledge themselves to take measures to prevent export or re-export by third parties from the areas reserved to them. These exclusive rights of the two parties also prohibit clandestine or indirect deliveries of potash between the one country and the other.

The only exceptions relate to the exportation into the territory of the other party of special chemical products containing potash, but in which the potash content is of only secondary importance.

Should the national territories be used as territories of transit, strict control must be exercised over the ultimate destination of the goods. The measures of supervision employed must be notified to the other party.

In view of the internal structure of the potash industry in both countries and of the nature of the potash agreement, it was obvious that the undertakings, which had hitherto been rival competitors, would guarantee each other in a clear and regular form a definite area of sale, so that each could exclude the competition of the other

from its territory. This undertaking not to sell in the territory of the other State is the usual preliminary condition of international agreements of this kind.

The agreement does not merely bind the two organisations, that is to say the Syndicate and the Société, but, for reasons connected with primary interests and in the event of the liquidation of the " Société commerciale des Potasses d'Alsace ", also binds for the whole term of the contract the various owners of French potash mines (" Mines domaniales de potasses d'Alsace and Mines de Kali Ste-Thérèse "). The owners of the German mines are similarly bound as members of the Potash Syndicate.

We see here the continuance of an old tendency of the German potash industry to welcome outsiders, that is to say, any new undertakings, whether these can hope to maintain themselves or not. This principle finds expression in the international agreement with which we are concerned. In Germany, all potash works and factories are compelled by law to join the Syndicate from the date when they are first in a position to make deliveries ; this is not the case in France, where facilities therefore exist for unlimited production ; accordingly the agreement requires the French mine owners belonging to the " Société " to make every effort to persuade any new potash mines or factories to join the " Société commerciale des potasses d'Alsace ", just as the German mines join the Potash Syndicate in Germany. If new mines are opened, or new factories employed in transforming potash obtained by extraction, the exports of potash from these works are included in the general foreign sales quota of the Syndicate and the Société. The contracting parties only undertake to adopt the measures necessary to determine the exact quantities of potash salts and potash manufactures derived from the mines and consigned to foreign countries by new producers who are not parties to the agreement. In this way, it is possible to obtain that general view of the industry which is necessary in order to judge what improvements may be needed. Both the contracting parties maintain the closest relations and take the necessary joint measures to maintain the regularity of markets. This point was deemed so important that it has found expression in a separate article.

The agreement covers the minerals containing potash extracted from the potash mines, crude potassium salts, in solid form or dissolved, chloride of potash, potassium sulphate, sulphate of potassium magnesia, potash salts for fertilising, all other products containing potash, and, lastly, mixtures of crude salts and manufactured salts. Since May 1st, 1927, all exports of mined potash in any form whatever have come within the scope of the agreement and are reckoned in terms of K_2O . This also applies to mixed fertilisers manufactured according to present-day methods or methods that may yet be discovered.

This clear and exact wording of the agreement, and especially the general clause of which we have spoken, would appear to guarantee the possibility of settling differences of opinion without difficulty.

A second chapter in the agreement deals with the quotas granted to the two countries. The total supply and total demand are divided between the members. These provisions also confer upon the agreement the character of a distributing cartel. The annual sales outside the national markets reserved (that is to say, Germany and France and their colonies, protectorates and mandated territories) are shared between the two parties to the agreement up to 840,000 tons of potash per annum. The Syndicate receives 70 per cent, the Société 30 per cent of the total quota. Of the surplus annual sales about 840,000 tons the Syndicate receives 50 per cent and the Société 50 per cent. If the annual sales only amount to 825,000 tons, the proportion is slightly adjusted in favour of France.

If, in the fourth year of the agreement (that is to say, from May 1st, 1929 onwards), the annual sales of potash do not amount to 840,000 tons, the Société will be granted

for the fifth year a priority delivery of 8,000 tons of K_2O , independently of the above-mentioned adjustment. If the sales still do not reach 840,000 tons of potash in the course of the fifth year, the quantities in excess of the highest annual turnover in the first five years will be shared from the beginning of the sixth year (1932) in the proportion of 50 : 50.

This quota system is particularly elastic even from the point of view of the home requirements of potash. The method of distribution laid down does not prevent the two parties from exchanging tonnage between one country and the other under separate agreements, whenever such a measure would seem expedient. This is also in accordance with the object of co-operation, which is to develop potash sales in conformity with the needs of the different countries, to reduce the cost of production and to avoid an unnecessary rise in the price of potash to the consumer.

The movement of foreign sales within the framework of the quotas is a matter for joint observation. Both parties undertake to notify each other every ten days in each month, and at the latest during the three days following the 10th, 20th and last day of the month, of the exact figures of their orders in hand and of the shipments they have effected during the ten days in question.

If it appears that one of the two parties has booked orders in excess of its quota, the difference is adjusted, immediately if possible, and at the latest within two months, by the transfer of a corresponding number of orders. Finally, before the end of the business year, which is also the financial year (April 30th), the quota figures are exactly adjusted. If, for reasons beyond control, it is impossible to make the adjustment by supplementary deliveries (within a maximum period of four months), the party which is in advance of its quota pays compensation to the party in arrears.

This supplementary payment to the other party provides a means of compensatory settlement to the extent that the advantage of one party involves a disadvantage to the other. It is a procedure commonly employed by profit-sharing price cartels. According to the terms of the Franco-German agreement all receipts go into a joint fund, and are divided between the members in proportion to their quotas. The careful allotment of sales quotas, and their adjustment, in case sales exceed or fall short of the annual standard figure fixed, should make it possible even in the future to provide for unforeseen events which may affect the potash industry of the two countries.

The form of cartel chosen is especially suited to a mass product like potash, of which the quality differs little, while it matters little to the consumer whether he receives the goods from one producer or another.

The agreement does not contain any provisions restricting the production of potash. It assumes a total quantity to be placed upon the market, and leaves it to the members of the cartel in the two countries to manufacture this quantity between themselves in the proportions they think fit.

As regards sales, both parties have agreed to establish joint organisations to develop sales in each country. Furthermore, there are, in many foreign countries, completely independent sales offices working to the same end.

In order to ensure the smooth application of the Franco-German agreement, the contracting parties decided to create various independent companies for common sales in foreign countries. At the present time selling companies of this kind exist for the Netherlands, Belgium, Switzerland, Italy, Spain, England and the United States of America.

The unification of sales has created a system which is undoubtedly in the interests of both the German and French manufacturer, for not only does it reduce the cost of propaganda and sales organisation, but it also allows of the opening up of markets in a far more complete way than was previously the case. These offices are in close touch

with consumers—especially traders and farmers—and can in this way do useful propaganda work and facilitate business transactions.

Joint sales necessitate the joint fixing of prices. Under the present agreement selling-prices are arranged for each country in accordance with proposals made by the managers of the sales organisations in the different countries. These managers then fix prices by joint agreement, with due regard to the cost of production, and in such a way as to encourage the further use of potash by agriculture and industry in each country.

The potash agreement, with its quota system and arrangements for joint sales, naturally calls for careful supervision in its observance. A Supervisory Committee has therefore been set up, on which each party is represented in equal numbers. The duties of the members of this Committee, who may act jointly or separately, are as follows :

The Committee, sitting at the headquarters of the company or of the mines, in the offices or elsewhere, verifies the accuracy of the statements made by the two parties in accordance with the terms of the agreement. If the Supervisory Committee comes to certain conclusions which are not recognised by one of the parties, that party has the right to demand a fresh enquiry by two outside persons. Each contracting party appoints one of these two persons. If the latter are also unable to agree upon the matter in dispute, they may appoint an umpire. Both the members of the Supervisory Committee and the persons appointed to undertake a fresh enquiry are entitled to be assisted in their work by representatives of the contracting parties.

This Supervisory Committee, which, by reason of the special nature of the agreement, corresponds to an organic necessity, also offers certain guarantees that even serious disputes, such as may easily arise in the application of any international agreement, will not involve any complications between the two parties. If it should be impossible to avoid some acute difference of opinion arising directly or indirectly out of the terms of the agreement, that is to say, if the parties adhere obstinately to their points of view, the arrangements provide for a last means of settlement. This excludes recourse to the ordinary courts. The matter has to be submitted to an arbitral tribunal consisting of two representatives of each party. These four arbitrators appoint an umpire. If they cannot agree upon the person of the umpire, the President of the Hague Court of Arbitration will be asked to appoint him.

The award involves financial consequences for the party against whom it is given. In the event of a duly established offence, the party at fault must pay the other party a fine, which may amount to five times the value of the matter in dispute or, in the case of a second offence within a year, to ten times the value.

The agreement is concluded for ten years dating from May 1st, 1926, but may be cancelled at the end of the seventh year after denunciation one year previously. If the agreement is not cancelled, it will remain in force until the tenth year and then, if not denounced, one year previously, is tacitly renewed for periods of five years, subject to denunciation one year before the end of each period. If it is terminated by denunciation or non-renewal, any differences between deliveries and quotas will be paid in cash.

The effects of this agreement are highly beneficial to the potash industry of the two countries, as regards both their foreign markets and the home market.

The first advantage is stability of prices. The conclusion of the international agreement has influenced the policy of potash prices by helping to stabilise the prices of potash for the farmer, at a level acceptable to both agriculture and industry. Potash prices were never fixed by competition, but were always made as low as possible in order thereby to increase the use of potash. The use of potash as a fertiliser

will only be profitable if there is a satisfactory ratio between the cost of this fertiliser and the value of the surplus production obtained thereby. The lower the prices of potash, the better are the prospects of its use as a fertiliser, even when, as the result of a comparatively large potash-content in the soil, the enhanced production to be obtained by potash fertilisation is less, or when, owing to the low price of the crop, the possible profit is smaller. The annexed statistics of the movement of potash prices (see page 39) show that, since the conclusion of the agreement, there has been practically no change in the price of potash in Germany or abroad.

On the other hand, the development of production in Germany and France shows the following tendency :

PRODUCTION OF K₂O.

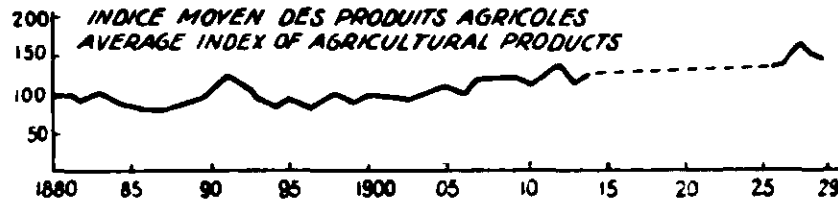
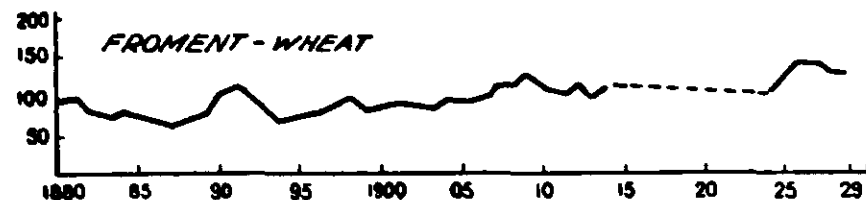
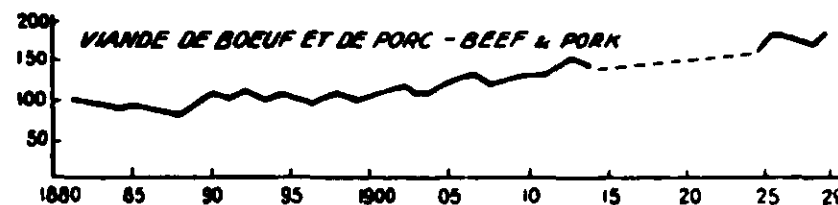
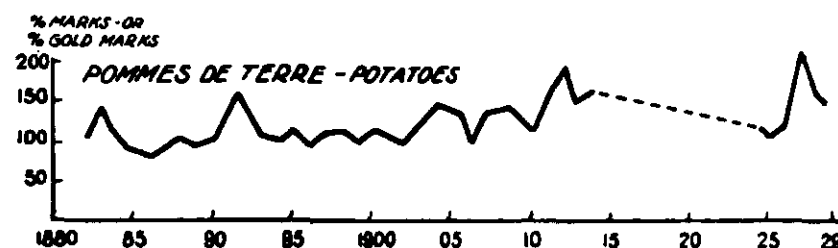
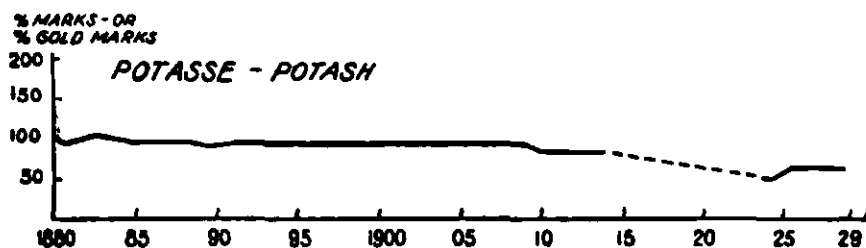
	In Germany	In France
1926.	1,260,047 tons	352,034 tons
1927.	1,518,724 "	333,273 "
1928.	1,690,469 "	427,997 "

Another important and indeed essential advantage of this international agreement consists in the impetus given to scientific research into the possible uses of potash as a fertiliser in foreign countries. Long experience has shown that propaganda in favour of the use of potash can only be permanently successful on the basis of a scientific study of the rational use of potash under different conditions of soil, climate, cultivation and method of exploitation, and by educating farmers. This education cannot be restricted to the use of potash of a specific origin, but must, in a general way, seek to show the value of potash as a foodstuff for plants ; that is, it must be a matter of joint propaganda. Such propaganda is in the general interest (since it also benefits the agriculture of the countries in question by drawing the attention of farmers to the possibility of obtaining increased yield through the use of potash) and its development, which is made possible by the agreement, is therefore an undoubted advantage to the agriculture of the countries in which it is carried out.

The two parties to this agreement base their hopes for its success upon its clear yet stringent provisions, and upon the recognition of their common interests. The German and French potash industries attach so much importance to this last consideration that they declare in a special article that they intend to apply the agreement in a spirit of loyal and friendly co-operation. The essential importance of this agreement lies in the effective realisation of this desire for loyal and mutually satisfactory co-operation between the two parties. The experience of several years has done nothing to diminish this importance.

MOVEMENT OF PRICES

of German Potash and the Principal Agricultural Products during the Period 1880-1929.



Owing to the war and the inflation, prices in gold marks cannot be given for the period 1915-1923.

The indices for potash are calculated according to the average prices of kainite, potassium salts for fertilisers at 20%, 30% and 40%, and potassium chloride at 50-60%.

VI. THE AGREEMENT REGARDING ANILINE DYES BETWEEN THE PRODUCERS OF FRANCE, GERMANY AND SWITZERLAND.

[*Translation.*]

In the chemical industry there is an agreement regarding aniline dyes. The original members of this cartel, dating from 1927, were France and Germany, and in 1929 it was joined by Switzerland.

As everyone knows, relations between science and the chemical industry have for a long time past been carefully fostered in Germany, the State University laboratories have worked in close co-operation with private undertakings, and, as a result, this special branch of industry has become very highly developed. Before the war, Germany supplied 88 per cent of the world's requirements in dyestuffs. France's production was comparatively small in relation to Germany's.

This situation changed during and after the war—and, in contrast with the pre-war period when the aniline-dye industry was concentrated in Germany, events after 1914 took a contrary course. The manufacture of chemicals is now regarded as an industry of boundless possibilities. Nearly all the great consuming countries which are at all industrialised, have endeavoured to develop chemical industries and especially an aniline-dye industry of their own, such has been the case with the United States of America, Great Britain, Italy, Japan, and especially France.

For the development of an efficient chemical industry, the question of raw materials is, on the whole, of minor importance, as Switzerland's example shows. France appears to be hampered in the development of her aniline-dye industry by the fact that she has not sufficient quantities of the raw material which is of decisive importance for her—coal. She is, however, able to purchase on the world market the necessary raw materials for the manufacture of coal distillation products.

Inorganic chemistry, on the other hand, is dependent on the supply of acids and alkalis. France combines the necessary conditions for a large inorganic-chemical industry. She has considerable deposits of pyrites in her own territory and in her North African possessions.

The production figures for sulphuric acid, for example, which provide an excellent indication of the development of inorganic chemistry in a country (sulphuric acid being the basic inorganic chemical for the production of fertilisers and being valuable in various other industries—such as petroleum-refining, the iron and steel, the textile, and the aniline-dye and explosive industries) have reached high levels in France.

PRODUCTION OF SULPHURIC ACID.

(Calculated on the basis of sulphuric acid of 50° Be — 62.5 per cent H₂SO₄).

	1913	1925
	(In thousands of tons)	
Germany.	2,700	1,800
France.	1,480	1,840
Great Britain.	1,800	1,300
United States of America	3,150	6,300
Total	9,130	11,240

As regards France's aniline dye industry, it was only after the war that it became specially active, this chiefly on the basis of the German processes which France acquired as a result of the liquidation of the German estates, properties, installations and patents, etc., which were seized.

The French Government was fully alive to the importance of a well-developed organic-chemical industry and gave every possible support to the improvement of production processes and to the movement towards business concentration. In the most varied branches of aniline dye production France was thus able to manufacture, with satisfactory results as regards both quality and quantity, all those products which she had previously been obliged to procure almost exclusively from abroad. Assisted by depreciation in the currency, this industry, while still in process of development, was able to enter the foreign markets and gain a firm footing in several quarters. The German industry therefore had to deal in its foreign markets with this French competition which, in some cases, was by no means negligible.

The following tables illustrate the above remarks :

ANILINE DYE PRODUCTION.

	Thousands of tons	1913 Percentage of world production	Thousands of tons	1924 Percentage of world production
Germany. . .	127	82	72	46
France. . .	2	1	15	9

EXPORTS OF ANILINE DYES.

	1913 In gold francs (millions)	1925 In gold francs (millions)
France.	1.6	35.5
Germany :		
	In tons	In Marks (millions)
1913.	108,900	218
1925.	34,400	186
1927.	46,900	222.6

In the aniline dye industry, the conditions prevailing in the sphere of national commercial policy were favourable to France. The French dye industry was protected both by a prohibitive Customs duty and an import prohibition. Germany could only support the French market by means of a complicated and limited system of licences. These transactions related chiefly to products which France was unable to manufacture herself. For the rest, the French aniline industry was able to meet home requirements and, thanks to the liberal support granted by the State, it was soon in a position to export considerable quantities of certain ranges of goods. This position of the French industry was so energetically defended by the Government for reasons of military policy that the prospect of any agreement on the subject being arrived at by the Governments in connection with the commercial treaty seemed practically hopeless. For the German chemical industry, the danger lay in the fact that, in the event of an agreement proving impossible, aniline dyes, one of the most important German

exports, were and would continue to be subject to discrimination and unfavourable treatment in the commercial treaty with a leading European country. As France was determined to protect her dye industry, and as Germany could not tolerate this discrimination, an agreement between the two groups had to be sought in the sphere of private industry. The situation of the aniline-dye industry had been particularly aggravated by the import prohibition then existing in England.

The various discussions between the two industries were conducted with the express object of diminishing the difficulties of this important branch of commercial treaty negotiations between Germany and France. From a business point of view, it was desired, in due course, to extend the general agreement concluded beyond the limits of the commercial treaty, and transform it in one form or another into a permanent agreement embracing both production and markets.

On the German side, the negotiations were conducted by the I.G. Farbenindustrie A.G. France's chemical firms were grouped into a kind of syndicate, through which they negotiated, however, as independent undertakings. The agreement was concluded in December 1927 and was signed by the following firms :

For Germany:

I. G. Farbenindustrie Aktiengesellschaft, Frankfort-on-Main.

For France:

Etablissements Kuhlmann, P.O. Paris, Société anonyme de matières colorantes et produits chimiques de St-Denis, Paris ;

Compagnie française de produits chimiques et de matières colorantes de St. Clair-du-Rhône, Paris ;

Société de produits chimiques et de matières colorantes, Mulhouse ;

Steiner, Vernon ;

Durand & Huguenin, Huningue ;

S. A. pour l'Industrie chimique, Mulhouse-Dornach.

The agreement covers all aniline dyes and auxiliary products for dyeing processes comprising several thousands of varieties. The products subject to the agreement are not described in detail, but the whole aniline-dye production of the two countries is governed by its provisions, and the inclusion of new products manufactured in the future is stipulated for.

The sale of dyestuffs is regulated by a small committee of delegates of both parties. This body is the centre of gravity of the agreements, the chief aim of which is the observation and regulation of markets. This as yet small selling cartel has by its very nature an indirect influence on production.

In view of its duties, this committee consists of technical and commercial specialists. All decisions regarding the measures to be taken in the producing centres, markets, etc., are adopted by the committee as a whole. It is this body too which discusses proposals relating to the mutual exchange of different ranges of goods and of the experience acquired in the undertakings of the two countries, and the exploitation of the technical discoveries made separately or jointly with regard to manufacture, dyeing, etc. This procedure is designed to ensure a continuous improvement in the standard and purity of the products supplied to the consumer in both countries, and to extend the market by enhanced quality. The actual production of dyes is

left to the discretion of the two parties. Definite quotas for the sale of individual products may be fixed according to the needs of the market. The quotas are thus variable.

In view of the nature of the products and of the processes of manufacture employed it will readily be understood that certain limitations of production have been provided for as a natural consequence of the regulation of sales. The establishment of sales quotas prevents overproduction and thus tends to keep the industrial load factor more or less steady.

As we have already mentioned, the exchange of ranges of goods provided for in the agreement also serves to ensure the maintenance of quality which is of such great importance ; here, Germany, with her 100 per cent range, can offer France the greater advantages and can supply the latter with the varieties she lacks.

In principle, sales, wherever possible, are carried out in common—i.e., in full co-operation between the French and German selling organisations which have hitherto been separate. For the supply of the home markets, the two parties lend each other such assistance as may be required to take advantage of any extra potential market capacity.

As regards foreign markets, the agreement was based on the understanding that both parties should retain their established business connections. In some cases, foreign markets are supplied jointly by means of a rational combination of the ranges of goods of the two parties and by the use of common selling agencies ; other markets are supplied separately. The decisions regarding the measures to be taken are based on considerations of expediency and on the market organisation of the countries in question.

In principle, all decisions regarding prices are taken jointly by the two parties like those regarding organisation and technical and commercial questions. As in all other conventions, prices are determined by competition, which, in the case of dyes, is chiefly represented by the United States of America, Great Britain and Switzerland. The parties to the Franco-German agreement on aniline dyes not being in absolute control of any of the numerous branches of dye production, prices depend to a very large extent on actual market conditions.

The members of the Cartel had not then, and have not now, the intention of raising prices. The Cartel's only object is to stabilise prices and all its members endeavour to supply customers, if possible at still lower prices than in the past. Any other policy would, for commercial reasons, have been doomed to failure from the outset, for the cartel, far from controlling the market, is faced with powerful competitors whose influence is partly manifested by a material lowering in prices. It is hardly possible to establish a comparison owing to the internal modifications which are continually going on in the tendencies of consumption and requirements as regards quality. Taken all round, however, the general tendency is towards a reduction in price-levels.

In case of possible disputes, the Franco-German dye agreement provides for an arbitral tribunal, since the desired joint decision cannot always be reached. The Chairman of the Board of the C.J.F. and the Chairman of the Board of the I.G. Farbenindustrie constitute an internal arbitral tribunal and decide finally and jointly on all points in dispute.

The agreement was mainly based on the conditions existing in 1926-1927, but in their desire to extend and improve the agreement, the parties have in view something more than pure questions of organisation and commercial advantage. Apart from dyestuffs, the agreement is intended to form the basis for similar understandings regarding numerous other branches of the chemical industry in the two countries.

In view of the far-reaching aims of the agreement, it has been concluded for a very long period. The present scheme, which is designed to operate for a few years only, will enable experience to be acquired and possible improvements to be tested in practice, and will be replaced later by permanent regulations.

The accession of new members from countries other than Germany and France is expressly allowed for. The countries to which this Franco-German agreement might be extended, in addition to Great Britain (Imperial Chemical Industries Ltd. London), are Switzerland (Swiss I.G., Basle), and Italy (Acno, Milan).

As a supplement to the Franco-German agreement, a further entente was concluded in 1929 between the two groups covered by the first agreement and a syndicate of the Swiss dye industry comprising the following firms :

Gesellschaft für chemische Industrie, Basle ;
J. R. Geigy, A. G., Basle ;
Chemische Fabrik vorm Sandoz, Basle.

This tripartite agreement only dates from a year back, and, according to the information disclosed, is still in its preliminary stages. In this agreement, too, a prominent part is given to national autonomy and to the free technical development of all the participants.

In dealing with customers, the cartel plays no direct or indirect part. The final adjustment of all sales to customers is effected between the central agencies by means of a common denominator, in fixing which each transaction is, of course, taken into account, but without the customer becoming involved as it were in the enforcement of cartel decisions. He remains free, as before, to buy where he wishes, and, in each case, a satisfactory price is debated with him. As, moreover, the cartel possesses no monopoly, but has to reckon with considerable foreign competition, it matters little to the customer whether the cartel exists or not. On the contrary, it can be confidently asserted that he derives numerous and appreciable advantages from its existence. The cartel has set before it the deliberate aim of serving the customer's interests whenever possible. It contributes largely to this end by supplying technical advice, for example, and this has made marked progress in many domains, thanks to the cartel. The elimination of price wars between the members of the cartel has the further advantage to the consumer that the dye market has become to a large extent consolidated and stabilised, and this has done much to remove the fear that a neighbour or competitor might buy cheaper, and that those who cut down prices most might have the advantage of others. It is therefore not too much to say that, viewed from the standpoint of the buyer, the dye cartel presents the greatest advantages in respect of prices and markets.

It is, of course, not yet possible to say whether the system on which the agreement is based will prove satisfactory or not. Nor can any final judgment yet be passed on its financial consequences. Nevertheless the structure of the agreement seems to take sufficient account of present requirements. The great difficulties which stand in the way of a general agreement in the chemical industries are chiefly due to the fact that new products are continually making their appearance, and that, hardly has a satisfactory regulation of conditions of production and sale been reached, than new developments overthrow the whole system. If it is further considered that the present dyestuffs convention refers to an improvement industry which is constantly developing and produces goods of great value, that aniline dyes exist in many thousands of varieties, and that the cost of production, referred to a unit of quantity, varies between 30 pfennigs and 50 marks, some idea may be formed of the administrative and commercial problems which have had to be solved by the two contracting parties.

The adoption of broad uniform principles and the real desire for co-operation alone made it possible to bring about an agreement in this industry, which is of equal technical, economic and political importance, and the national development of which, especially since the war, has been a matter of serious anxiety to the Governments.

Not until several years' experience has been acquired will a more definite pronouncement be possible regarding this agreement and its effects on private business and national economy.

All three industrial groups anticipate that the agreement will lead to increased production, freer sales and financial benefits.

VII. THE INTERNATIONAL ASSOCIATION OF BONE-GLUE MANUFACTURERS

(" EPIDOS ")

[*Translation.*]

Immediately after the war, the *position of the bone industry* and especially of bone-glue manufacture was exceedingly bad, very sharp competition having arisen between the various producers in this branch of industry both as regards the sale of their manufactured products and the procuring of the raw material (bones)—a waste product the supply of which is limited.

The following were the principal reasons for this state of affairs :

1. Some of the belligerent countries—such as France, Germany and Belgium—had lost their pre-war market as a result of the closing down of numerous factories during the hostilities, and were endeavouring to recapture it, thus entering into competition with various neutral countries which had developed this industry during the war.

2. Frontier changes, which considerably modified the areas from which various factories drew their supplies.

3. High Customs duties were imposed on the manufactured products and exports of bones were restricted by many countries, and especially by the Succession States of the Austro-Hungarian Monarchy, to protect home industry.

4. Lastly, the development of this industry in the United States of America, which, before the war, had been an important market for the European industry. This development was encouraged by the high Customs tariffs introduced by the United States, which not only rendered the importation of European glue difficult but also enabled the American producers almost entirely to oust European purchasers of bones from the South American market. The loss by European manufacturers of this source of supply (which was very important before the war), at a time when bone collecting showed a shortage in nearly all European countries, was responsible for very sharp competition among purchasers of the raw material.

HISTORY OF THE ASSOCIATION.

On the proposal of a Swiss industrialist, the most important European producers in this branch of industry met at Brussels.

The first meeting, in 1923, was a failure.

There was a second meeting, in October 1925, at which it was decided to entrust the drafting of an international agreement to a committee composed of German, British and French representatives. After this Committee had held a large number of meetings, a draft agreement was submitted to those who had attended the Brussels

meeting, and, in September 1926, the Epidos, or International Association for investigating the Means of developing the Bone-Glue Industry, was founded at Lucerne.

The signatories of this international agreement included most of the producers of Germany, England, France, Italy, Belgium, Switzerland, Austria, Hungary, Yugoslavia, Czechoslovakia, Roumania, Poland, Denmark and Sweden.

The representatives of the Netherlands and Latvian industry, who represented these countries at the Brussels meeting, declined to adhere to the agreement.

The industrialists of the various countries who have signed this agreement represent 50 to 100 per cent of the total industry in their respective countries.

OBJECT AND ACTIVITIES OF THE ASSOCIATION.

The most important duties of the Association are :

(1) Jointly to examine the possibilities of improving the bone industry, and, in particular, to facilitate and develop the collecting of bones and to extend the use of bone-glue and its by-products ;

(2) To help those members who temporarily hold large stocks of glue which considerably exceed the average stocks held by the producers in this branch of industry ;

(3) To ensure a reasonable distribution of the raw material ;

(4) To keep each member informed of the position of the bone and glue market throughout the world, and, for this purpose, to draw up statistics of sales, consumption and stocks ;

(5) To study all general questions affecting the bone industry.

The output of the members is not rationed, though measures have been taken to secure a fair distribution of the raw material as between the members, which does, in fact, amount to partial rationing.

The members in each country are entirely free to fix what sale prices they like for their goods.

The Epidos itself does not, then, fix prices or regulate sales, this being done by the individual companies at their discretion. It merely establishes a general price as an indication below which it forbids its members to sell, this restriction as to sale prices thus constituting a prohibition to dump as between the countries represented on the Association. As there is no central regulation of markets, etc., there can be no control as to the quality of the goods delivered, which is left to the discretion of each individual member.

The Association is administered by a Council consisting of one delegate for each country represented. This Council deposes part of its powers to an administrative board composed of the representatives of France, Great Britain and Germany. The President is changed at definite intervals.

A confidential agent (a Swiss chartered accountant) is entrusted with the collection of the members' subscriptions, the administration of the property of the Association, the establishment of statistics on production, consumption and stocks, and the verification of the data furnished by the members.

DEVELOPMENT AND RESULTS OF THE ASSOCIATION.

Since the founding of the Association, the Dutch and Lithuanian industries have joined, while the number of manufacturers belonging to the Association has increased in several countries.

Since the Epidos was founded, no one has withdrawn from it. At present, sixteen countries are represented and forty-six companies belong to the Association, representing approximately 85 to 90 per cent of the production of these countries.

Since the Association came into being, much more stable prices have been observed, both for the purchase of bones and the sale of glue.

The members of the Association have been enabled to effect considerable economies, not so much through a rise in sale prices, as through a reduction in transport costs and Customs duties, as, although trade, as between one country and another in the products in question, has not entirely ceased, each country has been able to increase its purchases and sales within its own frontiers to make up for the quantities formerly imported or exported.

Thanks to the possibility of more accurately gauging the general position of the market by a study of the statistics, some countries which—like France at the time of the rise of the franc—have gone through temporary periods of depression, recognised that the difficulties experienced in finding markets in their own countries were attributable to local conditions and not to general causes and could thus confidently await better times for the marketing of their stocks. The producers in these countries observed that, although their own stocks increased, those of foreign manufacturers at the same date, tended to fall, so that a collapse of prices was thus avoided, which would otherwise undoubtedly have caused serious prejudice to the industry.

The Association discussed the investigations made by the agents of the United States Government concerning exports to America, and the proposal to increase Customs duties in the United States of America and at the same time, examined the best means of increasing the consumption of glue and bone-dust derived from degelatinised bones.

There was a lively discussion between the members of the Association at the time when the Economic Committee of the League of Nations was considering the International Agreement relating to the Exportation of Bones, Hides and Skins. Unfortunately, however, this Committee declined to consider the suggestions of the Association, with the result that the League resolution of September 11th, 1929, replacing export prohibitions by export duties—which varied in the different countries—far from improving the position of the bone industry in Europe, caused serious disorganisation in a number of countries, which almost led to the dissolution of the Association.

VIII. TENDENCY TOWARDS CONCENTRATION IN THE ARTIFICIAL-SILK INDUSTRY.

[*Translation.*]

The detailed report (see document C.E.I.30), submitted in May 1927 by the Economic and Financial Section of the League of Nations to the world Economic Conference, gives full information regarding the origin of artificial silk, the development of the industry and its economic position up to 1927.

GENERAL ECONOMIC FOUNDATIONS OF THE ARTIFICIAL-SILK INDUSTRY.

Artificial silk is a purely chemical product. The raw materials are ligno cellulose and cotton linters.

The industrial production of artificial silk fibres was started in the early nineties of the last century in France on the so-called nitro-cellulose process. Germany followed immediately afterwards with the cupro-ammonium process.

The nitro-cellulose process has now lost all importance, and has been replaced by later processes superior both technically and economically.

The cupro-ammonium process, which was abandoned by the Glanzstoff group in favour of the viscose process, is at present principally used by the Bemberg Company, which forms part of the Glanzstoff group.

England, which at an early date began to manufacture artificial silk by the processes then existing (the pioneer work was done by Courtaulds, who are still at the head of the movement), accomplished valuable preparatory work in connection with the third process, known as the viscose process, which was adapted for utilisation in industry by German scientific work.

Finally, even before the war, the acetate process was introduced, but only became important after 1920, in the first place in England. It is estimated that at present about 84 per cent of the aggregate output of artificial silk is produced by the viscose process, about 10 per cent by the cupro-ammonium process, and the remainder almost exclusively by the acetate process.

The nitro-cellulose process has lost all commercial importance.

Efforts are being made to discover new processes, but the principal aim of science and industry is to develop and improve the existing processes, particularly with a view to producing dull silk, making the individual fibres finer, increasing their strength and elasticity and reducing the cost of production. The present price of artificial silk is about half the pre-war price.

As already indicated, the centres of the artificial-silk industry in its first stages were Germany, England and France. As pioneers of the industry we may mention the German Glanzstoff group with Bemberg, the English firm of Courtaulds, and the French undertakings included in the Comptoir destentiles artificiels.

In the other European textile countries and in North America, important undertakings were created, generally with the financial and technical support of these pioneers, who were already in friendly co-operation before the war.

At the present time there is hardly a single country in the world, with an advanced textile industry, which has not created an artificial-silk industry.

After the war, a great and abnormal development took place in the artificial-silk industry.

As the main patents were mostly in the hands of the above-mentioned pioneers, the latter had, until that time, controlled the development of the industry, and had been able to adapt it to the gradual growth in the consumption of the new raw material ; but when the main patents expired, and in particular when the German patents became available in former enemy countries, it was possible to invest capital freely in this new branch of production. In the first few years after the war, the creation of new undertakings was facilitated by the shortage of raw materials and, in succeeding years to a great extent, by the fact that the textile manufacturers had acquired more knowledge of the methods of handling the new product, which could, naturally, not be treated simply by using ordinary methods and machinery.

The increasing consumption after the war was, however, largely attributable to the price policy of the old pioneers which was deliberately directed towards gradually cheapening the product—though they had no definite price agreements with each other. In spite of many difficulties of treatment, the textile manufacturers were glad to use a raw material the price of which was not affected by speculative influences, as is that of cotton and wool.

In a general review of the industry, it should be borne in mind that, in addition to all these factors, which promoted what might be called an excessive development of the industry, the war, with its consequences, was bound to produce different effects in different countries, in some cases favourable and in others adverse.

These influences were adverse particularly in countries affected by the war, and naturally most of all in Germany, where the entire industrial machinery employed for military purposes to a much greater extent than in countries less affected by the war, such as America and the neutrals. In addition, Germany was very seriously affected after the war by the collapse of the currency and the shortage of capital.

Germany, which, before 1914, had occupied the leading position, was now relegated to the third place.

During and after the war, America built up a highly-developed raw-silk industry, principally with English and French support, and at present easily occupies the first place, from the point of view of quantity.

Italy, now free from the restrictions formerly imposed on her by the existence of patents and strongly impelled by her internal political evolution towards the creation of national industries, has taken the second place, while the old pioneer countries—Germany, England and France—have experienced a quieter and more regular development.

The wave of protectionism which came after the war—and not only in the new States—is promoting the development of national industries in these countries. Germany, formerly an exporting country, has now on balance a considerable excess of imports.

Although there are no absolutely reliable output figures for the early years—even at present the returns can rarely be verified—the following figures, representing the output of artificial silk in tons, may be taken as fairly reliable :

1896.	600
1906.	6,000
1916.	15,000
1926.	100,000
1929.	200,000

In accordance with the League of Nations monograph of May 1927, the percentages produced in the principal countries were as follows :

	1913	1923	1925	1929 Estimate
Austria	6.37	1.58	1.75	—
Belgium	11.82	7.37	5.85	5.5
Czechoslovakia	—	0.74	0.94	—
England	27.27	16.85	14.04	13
France	13.64	7.37	9.36	11
Germany	31.32	13.68	14.04	13
Hungary	—	0.84	0.35	—
Italy	1.36	10.53	16.37	16
Japan	—	0.42	0.81	3
Netherlands	—	2.63	4.67	5
Poland	—	1.16	1.17	—
Russia	—	—	0.3	—
Spain	—	—	0.12	—
Sweden	—	—	0.8	—
Switzerland	1.36	3.16	2.92	3
United States of America	6.3	33.67	27.49	27.5

The increase in production in America and the European countries in recent years has been fairly regular, so that the percentages of the total production in various countries in 1929 have not changed appreciably in comparison with 1925. Japan has probably improved her position. The estimates given for 1929 are probably approximately correct. The principal consumers of artificial silk are naturally countries with a highly-developed textile industry—such as America, Germany, England, France, Italy, Japan and China, of which Germany and France are able to cover their own requirements, while America is obliged to import small quantities; all the other countries are largely dependent on exports. The destination of the exports from producing countries over a long period is subject to change. The export goes in general from countries with a high standard of living and a highly developed textile industry to countries with a lower standard. This is, from the general economic point of view, undoubtedly unfavourable for the development of the artificial-silk industry, as a high standard of living is a necessary condition for the increased consumption of many artificial-silk products. Countries with a strong manufacturing industry, using particularly large quantities of the new raw material, exercise an attraction, in spite of their own industry, on the industry of foreign countries whenever the economic situation permits.

Possibly the exports of the various producing countries will gradually take a definite direction now that the industry, which has hitherto been in a state of flux, has reached a certain stage in its development and some idea, at least can be formed of the manufacturing possibilities.

A comparison of the export figures of all producing countries shows in general that the ratio of export to production is constantly falling. As against 1913, it has now fallen by about 10 per cent. The ratio of export to production is, in general, not more than a quarter.

Before giving a brief account of the individual leading enterprises in the main producing countries, we would summarise the general conditions as follows :

The artificial-silk industry of the world has now reached a definite point in its development. Starting from the three pioneer countries, Germany, England and France, it has extended to all civilised countries possessing a modern textile industry, and will continue to develop in future, though at a considerably slower rate.

Most countries are able to produce the necessary raw materials for themselves. In any case, the importation of these materials does not affect the trade balance so seriously as does the importation of textile raw materials proper. Accordingly, all the so-called textile countries will in future endeavour to create an industry for the production of raw materials of such great value for their national economic life.

The nature of the product, the difficulty of manufacture, the position in respect of patents and the vast capital required for the creation of large undertakings, which alone are profitable, have, in the past ten years, given the old undertakings a certain advantage over new competing firms; in this manner the old undertakings have to some extent maintained their original predominance although certain other firms have also gradually acquired an important position. Nevertheless, the number of really large artificial-silk undertakings is relatively small, although they produce by far the greatest part of the world output. It is generally considered that, at the present time, only undertakings producing more than 6,000 kilogrammes per day—which necessitates a capital of £750,000 or more—are able to meet the financial requirements of this delicate industry, which is dependent on scientific research.

Below we give a brief summary of the undertakings in the principal producing countries :

Germany. — Last year the total production was well over 26,000 tons including 84 per cent viscose silk, 14 per cent cupro-ammonium silk and the remainder acetate silk.

The leading position is occupied by the Vereinigte Glanzstoff-Fabriken A. G., which has a large number of subsidiary companies in Germany and considerable interests abroad. Glanzstoff produces at least half the German output of viscose silk and through the affiliated Bemberg group, which has also numerous interests abroad, about 80 per cent of the cupro-ammonium silk. The Glanzstoff group has recently concluded an agreement with the Dutch firm Enka. After the Glanzstoff group comes the I. G. Farbenindustrie, producing principally viscose silk and a smaller quantity of cupro-ammonium silk and acetate silk. Then come, in order of importance, the following firms: Küttner (viscose and cupro-ammonium), Zehlendorf and some smaller firms producing viscose silk, and the recently-founded firm of Rhodiaseta A.G., producing acetate silk (holding a concession from the French Comptoir group). Courtaulds and Glanzstoff have a joint undertaking in Cologne.

England. — Courtaulds, with their large interests abroad, are predominant in the manufacture of viscose silk and produce more than half the English output of artificial silk. There are many other firms producing viscose silk.

The British Celanese is the largest producer of acetate silk. It is not connected with Courtaulds.

The Glanzstoff group (Aku—see Holland) is represented in England by the British Bemberg (cupro-ammonium silk) and the British Enka (viscose silk).

France. — The undertakings grouped together in the Comptoir des textiles artificiels produce about 60 per cent of the output; they have also large interests abroad. The Comptoir principally uses the viscose process, but has also large interests in Rhodiaseta, which produces acetate silk, and also manufactures a small quantity

of cupro-ammonium silk. Courtaulds have a subsidiary company in Calais. Among other foreign firms may be mentioned Breda (Holland) producing viscose, and Bemberg, producing cupro-ammonium silk.

Holland. — There are two large producers, Enka and Breda.

Enka has concluded with the Glanzstoff group an agreement for close co-operation resembling a merger, under the name of Algemeene Kunstzijde Unie N.V. (Aku). Through the Enka and Glanzstoff-Bemberg group, this trust has important interests abroad ; it produces principally viscose and, to a less extent, acetate and cupro-ammonium silk.

The Breda group, producing exclusively viscose, is considerably smaller ; it is interested in an undertaking in France and one in Spain.

Italy. — There are three large groups principally, or almost exclusively, producing viscose silk :

The Snia group, in which the Glanzstoff group and Courtaulds are heavily interested.

The independent Chatillon group, controlled by the Banca Commerciale, with some foreign interests. The Società Generale Italiana della Viscosa, in which—apart from Italian capital—the Comptoir is principally interested.

In addition to these groups, there are the foreign firms : Italo-Olandese Enka ; Seta Bemberg ; Rhodiaseta Italiana.

Belgium. — Apart from the oldest viscose firms of the Société générale de Soie artificielle par le procédé Viscose, with two small subsidiary companies in Belgium itself, the most important firm is the Société Tubize, which originally produced nitro-cellulose silk, but has recently quite abandoned this process ; for many years it has produced viscose silk and holds an important concession from the British Celanese in respect of its acetate process.

Switzerland. — The most important firm is the Viscose Suisse, founded twenty-five years ago, in which the Comptoir has large interests.

In addition, there is an undertaking at Steckborn, in which foreign capital (French and German) is interested, and a purely Swiss company at Rohrschach and a smaller one at Rheinfelden, in which the Chatillon group has taken an interest.

Austria. — Austria has only one company, which belongs to the Glanzstoff group, the Erste Oesterreichische Glanzstoff-Fabrik A.G., founded over twenty years ago.

Among the younger artificial-silk producing countries in Europe may be mentioned : *Poland*, with three factories, of which the most recent is under French, German and Swiss influence ; *Czechoslovakia*, also with three factories, of which the subsidiary company of the Glanzstoff group produces about 65 per cent of the total output ; *Sweden*, with one small independent factory, and *Spain*, where artificial-silk manufacture has been carried on in recent years.

Outside Europe, there is a powerful artificial-silk industry, particularly in the *United States of America* and in *Japan*.

The origin of the industry in both countries is due to European influence.

In *Japan*, the Glanzstoff group, Courtaulds and the Comptoir, with their experience and capital, took a direct or indirect part in the foundation of individual works ; in the course of further development important purely national undertakings were created.

The industry, which is barely ten years old, has made extraordinary strides in recent years. In addition to supplying the country's requirements, it is exporting to an increasing extent to China.

The most astonishing development of the industry, however, has taken place in the *United States of America*.

From an insignificant production in 1912, the American output rose to 34.5 per cent of the world production in 1922-23 and still represents about 29 per cent. The invested capital exceeds \$300,000,000.

Viscose, cupro-ammonium and acetate silks—and, to a very small extent, nitro-cellulose silks—are produced. By far the most important undertaking is the Viscose Company, New York, founded by Courtaulds, which produces more than half the output of the United States.

The Glanzstoff-Aku group is represented by three undertakings, the American Glanzstoff, American Bemberg and America Enka Corporation; its share is 12 per cent of the total output.

The Italian Chatillon group has recently entered American business by founding a viscose and acetate factory. The principal producer of acetate silk is the Celanese Corporation of America, founded by the British Celanese. In addition, there are many large firms of a purely national character.

REVIEW OF RELATIONS IN THE INTERNATIONAL ARTIFICIAL-SILK INDUSTRY.

The brief summary just given of the more important artificial-silk-producers of the world shows the extraordinary extent to which the individual undertakings are interconnected. This is explained by the development of the industry and the position in respect of patents.

The industry was created in various countries, with the assistance of national capital, by the above-mentioned pioneers and a few other firms owning complete and well-tried processes with the corresponding patents. A decisive factor in the creation of such undertakings was the commercial policy of the new countries concerned which, as a result of their high Customs barriers, largely encouraged the establishment of the new industry within their territory.

It is difficult to ascertain in individual cases to what extent the founder firms are interested in the subsidiary companies, as payment for the processes, patents and installation supplied usually took the form of shares in the new companies. In addition, however, the founder company was usually financially interested.

It is impossible to say whether and to what extent the financial participation of the founder companies has been retained or transferred.

The effective influence of the founder companies on the subsidiary companies is therefore very different in individual cases.

In view of the fact that, in spite of close friendly relations—such as exist, for instance, between the old groups, Courtaulds, Comptoir and Glanzstoff-Aku—these groups are economically independent and free to safeguard their own interests and as, moreover, extremely powerful new groups have arisen in recent years, the economic and technical influence of the large groups on the entire production should not be over-estimated.

It is by no means the case that one or more of the large groups is in a position to exercise a decisive influence on production, prices or sale conditions.

The best proof for this is the disorganisation and the collapse of prices which have taken place on the international artificial-silk market.

Throughout the last few years of this collapse, the large groups have taken the lead in endeavouring to come to an arrangement which would permit of a suitable rationing of output and a stabilisation of prices and sale conditions. Their efforts, however, have hitherto been unsuccessful.

There have been more or less successful attempts in individual countries, so far as the law would allow, to regulate market conditions in the countries concerned.

Germany took the lead in this direction with her so-called Viscose Convention. However, the price conditions laid down therein had to be abandoned at the beginning of 1929 in the face of foreign competition on the German market which, in turn, induced some of the German firms to undercut the Convention's prices.

In Italy, an experiment has been tried, apparently with success, with a view to better regulation of the supply and a consequent stabilisation of prices on the home market by means of a combination of the large Italian producers into a kind of syndicate. This experiment is, however, too recent to enable a conclusive opinion to be formed.

Even in France, the influence of the Comptoir is not yet strong enough to regulate conditions on the home market.

In view of this position on the individual home markets, it is not astonishing that an international regulation, even on the European market alone, has hitherto been impossible.

The industry is evidently still too new and the individual groups, particularly the younger ones, have not yet reached a sufficient stage of development to understand the necessity of restricting their individual aims in the common interest of the industry.

In spite of the interconnection described above, the international artificial-silk industry is therefore still far from offering a united front.

Although monopolistic tendencies may have existed in various places, they can lead to no practical results, either now or in the future, because artificial silk is not the product of a localised industry or one whose output can be limited. International co-operation can therefore at most only aim at the regulation of production and prices. The fact that third parties could at any time start free production would be sufficient to prevent excesses, even if prices and output were regulated on an international basis by the majority of the producers. A reduction of supplies and unduly high prices would immediately lead to the creation of new artificial-silk undertakings, and this would be facilitated by the ease with which the raw material for the industry is obtainable and by the fact that the basic processes are no longer protected.

Nevertheless, an international regulation of production and prices appears to offer the only possibility of placing the industry on a sound basis. Although attempts in this direction have hitherto failed and the international artificial-silk industry of the world has not yet realised the need of a rational policy in respect of production and prices, the leading firms are continuing their efforts in this direction. These attempts at union are no doubt directed, in the first place, at arousing in producers a sense of their common interests, and to studying the questions which can be immediately solved by co-operation even without close ties between the parties.

In order to attain this object, the leading firms in the European artificial-silk industry have combined to form the Bureau international pour la standardisation des fibres artificielles ("Bisfa"), the principal aim of which is expressed by its title. It is a kind of association for investigating the international economic position and international markets in connection with artificial silk; it aims at the standardisation and uniformity of the products, establishes testing regulations and

endeavours to determine commercial usages. It is, to say the least, an open question whether it will be possible in the near or distant future to make further progress towards the establishment of anything in the nature of a cartel embracing the leading firms in the industry.

In any case, it would be a mistake to conclude from the existence of this Bureau or of the above-designed financial inter-connection, existing in particular between the older and larger firms and due mainly to the former position in regard to patents, that the relations of these firms to one another have the character of a cartel or trust.

On the other hand, the complete disorganisation of the artificial-silk market, the unrestricted growth of production, the unjustifiable creation of innumerable new artificial-silk enterprises, the drop in the prices of the goods and of the Stock Exchange quotations even of old and firmly-established firms, all show that, in order to improve the international position, there is no other solution than a combination of the leading enterprises to form a kind of cartel.

IX. THE EUROPEAN LINOLEUM TRUST.

[*Translation.*]

The idea of a combine between the linoleum industries of the different European countries was initiated by the German industry. Even before the war, the competition prevailing in this young industry, and the serious economic depression in Germany, had necessitated an agreement between the five existing firms. In 1910, all the German linoleum factories concluded a Convention having as its principal object the common regulation of prices. This Convention remained in force until after the war, in spite of many changes in the circumstances.

The existence of similar economic constraint in other European countries resulted, in December 1911, in a first effort at international co-operation with foreign factories. The object of the Convention was to fix uniform prices and conditions of delivery; it is still in force at the present moment, through it has been amplified in various respects. Nearly all the European factories are parties to this Convention, excepting some British factories of minor importance, some independent German factories and one Spanish firm. Financial difficulties and technical discoveries gave rise to further intensified competition in every quarter, (linoleum manufactured from linseed oil, cork powder, resin and jute, which was invented about 1860 by the Englishman, Frederick Walton, encountered a competitor in the substitute material "Triolin" which was placed on the market in 1920 by the Köln-Rottweil Company). In the German linoleum industry, this situation resulted, in 1925, in a new phase of the unification of interests; by means of Conventions and Agreements for financial participation, in which the Delmenhorster Werke took the leading part, an amalgamation of the German factories was effected.

Shareholders' meetings of the five factories concerned (Germania Bietigheim, the three Delmenhorst factories and the Maximiliansau factory) approved a scheme of amalgamation according to which all the factories were to be grouped into a single main concern. By this scheme the Germania Linoleum-Werke A. G. Company, Bietigheim, absorbed the other enterprises, and the whole of the assets of the Hansa, Anker and Schlusel (Delmenhorst) factories, as also those of the Maximiliansau Linoleum factory, were transferred to it, without these concerns being wound up. With a view to effecting this amalgamation, an extraordinary general meeting of the Germania Werke, Bietigheim, approved, on October 22nd, 1926, an increase in the share-capital, which was raised from 7,000,000 to 30,000,000 RM. The Trust was constituted under the name of the Deutsche Linoleum Werke A.G., with its seat at Berlin and its centre of management at Bietigheim.

The policy adopted in Germany could not fail to produce international reactions. In regard to joint-stock companies there was no uniform company law in the different countries which would have rendered possible an amalgamation on the German lines. It was therefore necessary to discover some form of action which would enable the new organisation to obtain, so far as possible, the same economic results as by an amalgamation, while leaving the companies in the different countries the largest measure of administrative autonomy compatible with their common object.

In pursuance of this idea three companies amalgamated in February 1928—namely, the Schweizer Linoleum-Aktiengesellschaft Giubiasco (share-capital 5,000,000 Swiss francs), the Schwedische Linoleum-Aktiebolaget Forshaga (share-capital 6,000,000 kronor) and the Deutsche Linoleum-Werke A.G.

As regards its external form, the amalgamation was effected as follows : the three firms in question constituted a pure holding company, in the form of a Swiss joint-stock company, under the name of Continentale Linoleum Union, having its seat at Zurich ; the capital of this company was fixed at 23.5 million Swiss francs. The majority of the shares of the three subsidiary companies were transferred to this holding company. The three companies also obtained an interest in the holding company by acquiring some of its shares, so that, by this process of exchange, a very close interlocking of the businesses was produced. In order to obviate any possible abuses from the relative influences which might be exerted under this agreement, a contract was concluded for fifty years establishing a " community of interests " (*Interessengemeinschaft*), and this was combined with another contract uniting the four companies in a " pool ", so that the shares of the different companies were absolutely assimilated.

The companies draw up their balance-sheets on uniform principles, and distribute the whole of their profits in proportion to the number of shares which they respectively have in circulation ; any rights to new shares have to be issued under similar conditions. The pool-contract stipulated that the companies should allocate their profits in proportion to the capital on which they were entitled to a dividend. It was further prescribed that the shares in the trust mutually held by the different companies should be debarred from participating in the profits. This distribution is carried out by combining the balance-sheets of the different companies (after providing for the regular and extraordinary sinking-fund payments) according to the most uniform principles possible. The companies then receive their quotas, proportionately to their share capital in circulation, so that they are able to declare the same dividend.

In the further course of the economic organisation of the linoleum industry, the Continentale Linoleum Union also acquired interests in the Lithuanian and Norwegian linoleum industries. In 1928, the Linoleum-Aktiebolaget Forshaga bought up all the shares of the Libau Linoleum-Werke A.G. (share-capital £82,229 *zs. od.*) and acquired a large number of shares in the A/S Victoria Linoleumfabrik Oslo (share-capital crowns 250,000).

The importance and utility of the concentration of continental factories was soon recognised by the businesses which had not adhered to the trust—namely, the N.V. Nederlandsche Linoleumfabriek Krommenie (Netherlands) and the French Linoleum factory " Sarlino ", Société anonyme rémoise du Linoleum, Rheims. As a result, these two concerns adhered to the Linoleum Trust in 1929.

The N. V. Nederlandsche Linoleumfabriek Krommenie acceded to the Convention establishing the " community of interests " (*Interessengemeinschaft*) with a share-capital of 7.5 million Netherlands florins, and, in consequence, participated in the pooling of the profits. A majority of the shares of this company were acquired by the Continentale Linoleum Union, as a result of the following operations : the latter company received 2.5 million florins worth of the Krommenie shares from the company itself, and 1.25 million florins worth from the previous proprietor in return for shares in the Trust. The dividend-bearing share-capital of the Trust was raised by this transaction to 63,125 million Swiss francs. In the case of the Rheims Linoleum Company (Sarlino), the capital of which was at that time 70 million French francs, the Trust simply acquired a majority of the shares. This operation was followed by the conclusion of a convention for a term of 50 years, under which Sarlino will have at its disposal the experience, co-operation and financial aid of the Linoleum Trust, so that the great Rheims factory, with its well-equipped modern plant, will be assured of ample business. For the moment the Sarlino is not a party to the Convention establishing the " community of interests " (*Interessengemeinschaft*) and pooling

of profits between the members of the Trust, but its closer attachment to the Trust is only a question of time.

It is not possible, at the moment, to say whether this programme of international concentration has attained completion, or whether it is still capable of further development. The Continentale Linoleum Union at present possesses sixteen factories in seven different countries, including eight factories in Germany.

If we examine the internal conditions which have made this development possible, we perceive that the normalisation and standardisation of products, which had been effected in the linoleum industry from its earliest days, rendered it a peculiarly suitable field for a combine.

Since the first invention of linoleum, the German factories, which have been combined since 1910, have only made linoleum of standard width, thickness and quality. The only differences were under the head of patterns. Except for a few minor differences linoleum was made by the same processes in all factories, from the same raw materials (linseed oil, cork, jute, pigment), and with similar machinery and plant. Lastly, it should be added that no substitute, combining the chief advantages of linoleum, has so far been discovered.

The creation of new factories—that is of independent concerns—is a matter of great difficulty, owing to the fact that the linoleum industry needs very large capital, and that the processes of manufacture are very complicated. The works of the older factories, most of which were built before the war at comparatively small cost, have been amortised to a very large extent, whereas the creation of a new business at the present moment would require a very much larger outlay. If there is to be any profit on the manufacture, every description and pattern must be manufactured in large quantities, since alterations in the description or pattern requires transformations of plant which involve a serious loss of time, and result in work having to be suspended for a long period (for cleaning the incorporating machinery, etc.), and this adds considerably to the cost of production. Small concerns are not in a position—like an International Trust, which sells its products in all countries—to organise themselves for mass production, and this fact alone may well render it impossible to run the works at a profit. Linoleum is, in the first instance, an industrial art-product appertaining to the transforming and finishing industries. At the present moment the quantities used in Germany for construction are not more than one-fifth or one-sixth of the total sales. The greater part of the German production consists of printed linoleum which is sold by retail in the form of strips, stair-carpets, carpets, mats, etc.

In other countries, linoleum is even less used for construction, and the quantity of staple-linoleum as compared with printed linoleum is even less. The diversity of the tastes or requirements of the consumers leads to widely varied demands in the market. In addition to self-coloured linoleum, finer qualities are known such as granite linoleum (in two colours, or many coloured), cork linoleum, and inlaid linoleum, which is produced by means of cutting cylinders or by stencilling. With the aid of highly skilled artists, very costly assortments of patterns are assembled, every effort being made to keep abreast of the prevailing fashions. These assortments are distributed, by thousands of samples, in book-form (lithographed in colours). Or, again, the same patterns may be turned in different widths, dimensions, and thicknesses. The factories composing the Deutsche Linoleum-Werke alone possess an assortment of more than 2,000 specimens (the figure is nearly 5,000 for the whole Trust). Any factory which sought to compete with the Trust would have to possess an assortment of almost the same extent. Moreover, one peculiarity of the linoleum industry is that success depends not only on technical perfection of the means of production, but also and essentially, on the experience which the technical experts in charge of the work have acquired in

the course of many years. This experience is perhaps the most important capital possessed by the great businesses now in existence, and the failure of all recent attempts to enter into competition with the older concerns is largely to be ascribed to this factor. When one considers the natural superiority which the International Trust derives from its high capacity for output, from the extent and variety of its assortments of samples, and from its widely ramified sales organisation, one is led to doubt whether the probable return on the capital employed for the creation of new businesses could ever be commensurate with the risks to which the capital would be exposed.

The *total output* of the Continental Linoleum Trust in 1929 was 35,000,000 square metres, worth 125,000,000 RM. in round figures. The share of the German cartel was 24,000,000 square metres, of a value of approximately 90,000,000 RM. The output of the Continental Linoleum Union is estimated at one-quarter of the world output. Germany probably produces a-fifth of the world output, and England and America a-third each.

The Trust does not assign quotas of the total output to its members. Indeed, orders are allocated as between the various factories solely in accordance with practical requirements. The German Trust works at present to about 60 per cent of its total output capacity. It therefore has a margin of production of about 70 per cent. The reason for this is that, at the time when the Trust was constituted, each factory had a large margin of production which could be considerably increased by technical improvements effected in later years. The foreign factories which subsequently entered the Trust were in practically the same position. At present, they are working almost to the full extent of their output capacity. One of the peculiarities of linoleum manufacture is that a factory with a complete plant can very largely increase its production with a comparatively small outlay, by developing certain allied branches of the manufacture.

The *sale* of linoleum is carried out by the members of the Trust themselves on much the same lines as those followed in Germany. In Germany sales are controlled uniformly by a Central Office (at Bietigheim), with six sales offices for the whole of Germany (Berlin, Cologne, Frankfort, Bietigheim, Leipzig and Delmenhorst), while the linoleum factory of Bedborg (Rhineland), which is only bound by price-agreement in respect of a part of its output, markets its products independently. Prices—*i.e.*, both factory prices and the prices charged to consumers—are fixed by the directors of the Trust, which consults traders as to the latter prices. (As regards both factory and consumers' prices, the directors act in complete agreement with Bedborg.) The Linoleum Wirtschaftsstelle, G.m.b.H.—a branch of the Trust created for the purpose—supervises the strict observance of the prices laid down for sales to consumers. This branch also looks after the economic interests of the Trust with the administration, etc. The firms sell only to wholesale merchants and other dealers, but not to consumers, architects, building authorities, etc. A special discount is given to wholesale merchants reselling to dealers, and, in this way, the former are able to sell at factory prices. The consumers' invoiced prices apply uniformly to the whole of German territory; dealers are allowed a premium of 1 to 5 per cent, varying according to the turnover. The central selling office endeavours as far as possible to sell only German goods in Germany, and to keep foreign goods out of the German market. In this way, imports of foreign linoleum have been considerably reduced since the Trust was founded, and have been replaced by German goods.

As is the case in Germany, the International Trust has organisations of its own to effect sales in countries where the Trust itself possesses factories. Then sales are effected direct by the companies which, for their part, have created selling services of their own. Thus, the Sarlino, the Linoleum-Aktiengesellschaft Giubiasco, the N. V.

Nederlandsche Linoleumfabriek Krommenie and the Linoleum Aktiebolaget Forshaga at Göteborg possess selling organisations at Paris, Basle, Amsterdam and Stockholm respectively. These organisations work with the selling organisations which the Continental Trust has set up for the purpose of selling, in the individual countries, the products of all the Trust factories through a single organisation, acting in close co-operation with the factories of the five countries.

In the other countries in which the Trust has no factories, the sale of its products is effected by agents ; in these countries also the Trust sells only to traders.

The English industry (British Association), which is connected by a cartel with the Continental Trust, the English works which are not in the cartel and the factories of the other countries have no joint selling organisations.

Selling prices in foreign countries are fixed by friendly agreement with the English linoleum industry (British Association). These export prices hold good for all countries with the exception of North America and Italy, for which special selling prices have been laid down by international agreement. A few small English factories do not belong to the British Association, but as a rule they adopt the Association's selling prices. The only exception is furnished by a large factory at Lancaster, which claims the right to fix lower prices, as it turns out cheaper goods of inferior quality.

The linoleum factories in the United States of America have not so far exported any large quantities to Germany, nor has the recently built Russian linoleum factory in Odessa as yet exerted any influence on the market. Similarly, the small factories (one in Australia and one in Canada) have not effected any sales in Europe.

Since the creation of the cartel in 1910, the industry has endeavoured to maintain prices at as steady and low a level as possible, and therefore to alter these prices only at very long intervals. This principle was departed from after the combine was created in Germany in the autumn of 1926 ; as early as January 1927—*i.e.*, even before the rationalisation measures had had time to produce any effect, a first reduction in prices was effected, and, at the same time, the margin reserved for trade was diminished. Prices were again reduced on April 1st, 1927, and for the third time on August 20th, 1927. Thus at a time when the prices of almost all commodities were rising, the Linoleum Trust made large reductions on three occasions. These attempts to lower prices (see graph of prices, page 64) and production costs were then counteracted—first of all, by the increase in overhead expenditure (taxes, social charges, wages, salaries, freight, etc.), and, secondly, by a very marked rise in the price of the raw material. Of very special importance in this connection was the rise in the price of the principal raw material for the manufacture of linoleum, linseed oil, which increased by nearly 50 per cent during the period June to September 1929 alone, and the rise in the price of cork. The wholesale price of cork had increased by 100 per cent in round figures since the end of 1925. The advantages afforded by rationalisation were therefore insufficient to counterbalance the rise in cost prices indicated above. The German Trust accordingly was compelled to raise its prices in 1929 and at the beginning of 1930. It is the case, however, that the prices charged to consumers before the German linoleum industry was formed into a combine were only slightly lower than the present prices. This may accordingly, in view of the enormous increase in the cost of raw material and the marked rise in the case of all the other component elements in cost prices, be regarded as a success for the policy of organisation.

Prices on the world market are supervised reciprocally by the selling organisations, in accordance with a " gentleman's agreement " concluded with the British linoleum industry. The sole object of the international cartel with the English industry is to establish common prices for markets outside Germany ; no agreements exist regarding output and improvement of quality.

Export prices are to some extent competitive prices ; for certain qualities they are at present as much as 30 per cent below, and for other qualities as much as 8 per cent above, the home price (see graph, page 64).

The advantages which buyers derive from the International Trust consist, in the first place, in the stability of the prices, which are kept as low as is consistent with safety.

In Germany, the consumer enjoys the benefit of uniform prices, since reselling prices are also fixed in agreement with the Federation of German Linoleum Merchants. In this way, the consumer cannot be asked to pay an arbitrary price. Similar agreements have been concluded in Switzerland with the Traders' Association there, while regulations on the same lines, though not so rigid, have been introduced in the Netherlands, Sweden and Austria.

The second great advantage is that purchasers can always rely on receiving high-grade goods which are uniform as regards their quality and execution. In particular, by giving each other the benefit of their experience, the various factories in the Trust have done a great deal to improve the quality of their goods. They have gradually overcome serious technical difficulties and have thus succeeded in turning out thinner, and therefore cheaper, articles than the 3.6 mm, thick linoleum which was in common use sixty years ago. This has accordingly led to a marked increase in consumption. The placing of a thin uniform coating of linoleum paste, only a fraction of a millimetre thick, on a jute fabric one millimetre thick, thus giving a linoleum with a thickness of 1.3 mm. to 1.4 mm., represented a most important technical advance, especially if we bear in mind that even these thin qualities had to possess the important technical and hygienic properties associated with linoleum.

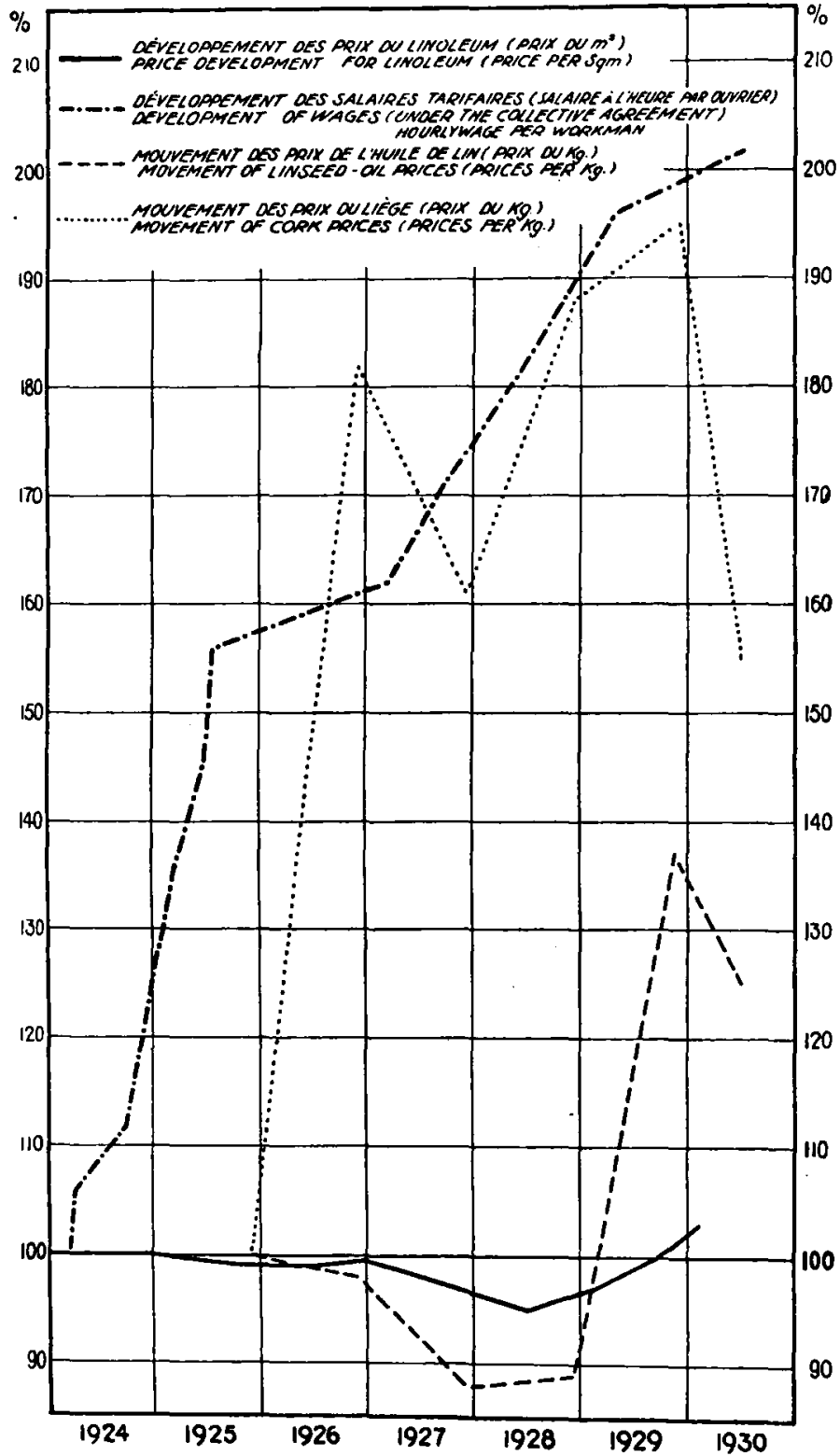
The uniform quality of the Continental Linoleum Union's goods is secured by careful supervision of the output on the part of the management. Discussions and meetings are constantly taking place between the individual factories in the Trust ; they give each other the benefits of their experience and exchange patterns of their goods, and they work together constantly with a view to improving the quality of the linoleum.

Any judgment on the economic value of the Linoleum Trust must take account of the fact that the position of the industry was so serious before the Trust was formed that there was a great danger of the firms concerned suffering heavy and irreparable losses, and that the only way in which the situation could be saved was by forming a cartel and by concentration. That is the first economic advantage resulting from the creation of the Trust. Other advantages were reaped mainly by the individual firms. These latter advantages included, more particularly, the saving effected by the commercial and technical rationalisation of the various concerns, especially by the standardisation of the collections of patterns and by a reduction in their number, and by assigning specific qualities and samples to particular factories in the Trust, these measures being intended to reduce to a minimum alterations in the machinery of the firms. Expenditure on freight was lowered by allotting orders, where possible, to firms occupying the most favourable geographical position, while savings were effected on Customs duties by avoiding the sending of consignments over Customs frontiers, the concerns in the individual countries themselves covering home requirements whenever this was feasible.

An *independent* linoleum factory is not more favourably situated than an International Trust, either as regards freight charges or Customs duties. It is solely in the case of staple goods that freight and Customs duties are of real importance. Only a comparatively small quantity of such goods is, however, marketed ; they represent merely a fraction of the total output. The various traders require more

particularly, in addition to staple goods, linoleum with designs. In the case of these last articles, neither freight charges nor Customs duties are a decisive factor. What is of real importance here are design and quality, except in the case of countries which have imposed duties that are virtually prohibitive. In this case, the independent factory protected by a high Customs barrier has, as a rule, under cover of this prohibitive duty, fixed prices in the country in question at so high a level that consumption was seriously reduced. Notwithstanding very high Customs duties, the linoleum industry has not been able to make any headway either in Italy or in Spain (and this was true of Austria before the war). In Italy, it is true, certain natural factors tend to check the growth of the industry. In that country, and in Spain as well, linoleum is not used for floors, since both in private and public buildings the floors are almost entirely of stone and consumers are not yet aware of the value of linoleum. In view of the Customs protection enjoyed by the Trust factories in the various countries, it seems unlikely that any new firm can solidly establish itself.

Very extensive propaganda, carried on by the advertisement department of the Central Office with the aid of expert technical advice (the industry possesses organisations of its own which give advice on matters of building), led to a largely increased consumption of linoleum in Germany and in other countries. This advertisement campaign also benefited firms unconnected with the Trust. These advisory organisations carried out scientific investigations, emphasised the technical and hygienic advantages of linoleum, called attention to its great practical value, brought forward figures, graphs and pictures in support of their statements, and published pamphlets and reviews. In this way, they brought home to the great body of consumers, architects, building authorities and other technical circles the advantages of linoleum flooring and large-scale construction over wood and rubber flooring. This advertisement campaign, the excellence of which was admitted even by persons outside the industry, could not have been carried through by any single firm, if for no other reason than that of expense. In this way also, the Trust has accomplished one of its economic objects—to increase consumption.



IX. INTERNATIONAL AGREEMENT IN THE INCANDESCENT ELECTRIC-LAMP INDUSTRY.

In the incandescent-lamp industry, more than in any other branch of industry, economic combinations have been determined, as regards their terms and their effects, by the progress made in the technical and scientific fields. Manufacture is governed by patents, and in consequence the progress made has led, on the one hand, to community of interests in production and, on the other, as a result of the rationalisation of manufacture, to the abandonment of sales agreements. As a rule, no sales agreement could be concluded until a process of manufacture ceased to be used for purely technical and scientific purposes.

Legal monopolies certainly helped to support the older firms, but on account of the practice followed by the Patent Office of affording only limited protection to patents, a monopoly did not provide any safeguard against the opening of new incandescent-lamp factories. Moreover, mass production enabled the newer firms to compete with the older more successfully in the case of incandescent lamps than in that of precision articles. Being a mass-produced article, the electric lamp, like the dynamo, could not become the monopoly of the big, older firms.

In the incandescent-lamp industry, unlike that of special electro-technical and electrical products, there was still room for agreements regarding production and sales. Even in that industry, however, financial agreements gradually took the place of co-operative forms of organisation, particularly after the discovery of the tungsten (wolfram) lamp. The rapid development of the electric-light industry led to the opening of large numbers of incandescent-lamp works between 1890 and 1912. Except, however, for the Julius Pintsch Company, the firms manufacturing special articles could not, in the long run, maintain competition with the general manufacturers or with the producers of incandescent gas-burners. The changes involved by technical progress were too rapid, and, with each change, the effects on the costs of production and prices were too great for the exploitation of older patents and processes of manufacture to provide any dependable economic basis for specialist factories. Costly laboratory research work could not be afforded for long except by the big general producing firms. These were able to keep pace with the technical progress made, but they were compelled to sink millions of capital in so doing, as was the case with the A.E.G., for example, after the experiments with the Nernst lamp. Price reductions, accompanied by improvements in quality, provided the older incandescent-lamp manufacturers and the big non-specialist undertakings with a better weapon for combating the new enterprises than legal monopolies. On the other hand, monopolies proved very useful in competition between the big firms and non-specialist enterprises themselves, though they did not hold up for long the economic and technical progress of individual non-specialist undertakings. Accordingly, on account of the closely interconnected interests of non-specialist undertakings in other fields of production, agreements regarding patents were soon concluded, and, after the gradual elimination of various processes of manufacture, these agreements were for the most part transformed into sales agreements. The conclusion of agreements regarding production and sales was rendered particularly easy by the fact that the incandescent lamp

industry had for long been concentrated in the same geographical area and, despite disintegrating tendencies, the number of concerns engaged in the industry was relatively small.

The situation being thus provisionally stabilised, agreements began to be formed in the international field. This development was due, in the first place, to the extent to which the incandescent-lamp industry was bound by patents, and, secondly, to its big export interests and the international links connecting the electrical industry and the financial centralisation of that industry. The competition between the branch factories which the various non-specialist firms established abroad also called for an international understanding. International agreements were further helped by the centralisation of the production of incandescent lamps in the hands of a small number of concerns in a very few countries. Despite the boom in the Netherlands and British incandescent-lamp industry during the war, the lead in the world market was taken after the war, as it had been before, by Germany and the United States of America.

The first international combine in the incandescent-lamp industry arose out of the creation of the German Edison Company. This Company, the predecessor of the General Electric Company (A.E.G.), obtained from the Edison Continental Company of Paris, in 1881, a licence to manufacture incandescent lamps on payment of a fee of 50 pfennige per lamp. The German Edison Company subsequently concluded an agreement with Messrs. Siemens & Halske, as this big firm had to be reckoned with in the general electrical industry, more particularly on account of its experience in the manufacture of the Hefner von Alteneck differential arc-lamp and its other experimental work in connection with electric lighting. In this agreement, which was concluded for ten years, types of manufactures and zones of interest were divided. Siemens and Halske became parties to the licence contract, and had to pay a licence fee equivalent to $33\frac{1}{3}$ per cent of cost price. This, however, had to be paid, not to the foreign Edison Company, but to the German Edison Company, which, in its turn, forwarded half, with its own fee, to the Continental Lamp Company of Paris. Siemens and Halske thus became, from the financial point of view, sub-licencees of the German Edison Company, though legally they were direct licencees of the foreign Edison group.

By this relatively unimportant concession, Messrs. Siemens and Halske secured the exclusive right to manufacture machinery and apparatus of the Edison lighting system, which the German Edison Company itself undertook to buy. The international connection terminated in 1887, however, owing to the financial and legal difficulties of implementing and safeguarding patent rights. The withdrawal of the protection afforded by those rights largely removed the economic and technical obstructions which had previously hindered the independent development of German enterprise. In the same year the German Edison Company and Messrs. Siemens and Halske concluded a fresh agreement for ten years, whereby, although the two firms were still to collaborate, the German Edison Company became more independent of Messrs. Siemens and Halske as regards the manufacture of lighting machinery and material.

The technical progress made in the incandescent lamp industry and the economic advance of the electrical industry, however, had the effect of destroying contractual agreements. In the early nineties the German Incandescent Gas-Burner Company (Deutsche Gasglühlichtgesellschaft) set up in Germany strong competition with the German Edison Company and Messrs. Siemens and Halske, which, combined with the attempts of other big firms to expand, drove the price of incandescent lamps down from 5 marks in 1886 to 1.60 marks in 1894.

Accordingly, in 1894, the German Edison Company — which, in 1888, became the A. E. G. —, and Messrs. Siemens and Halske brought their technical collaboration

to a premature end. Price-cutting reduced the prices of incandescent lamps still further. The new firms, however — except the Julius Pintsch Company — could not compete against the big manufacturers. They lacked both business experience and capital to finance the costly research work required. On the other hand, in the course of the 'nineties the big firms themselves had to meet the competition of the wealthy German Incandescent Gas-Burner Company, which had taken up the manufacture of incandescent lamps and became a growing menace, as it possessed large capital and had an equally wide experience in the scientific and technical fields.

The technical development of the two big enterprises referred to above naturally took the line of technical improvements in the carbon filament lamp, but at the turn of the century the work of the German physicist, Walter Nernst, gave an entirely new impulse to the whole development of the technique of lighting. Walter Nernst showed, by the lamp which is named after him and which was made and marketed by the A. E. G., that carbon was by no means the only available medium of illumination, and that substances of an entirely different physical nature could be used for the same purpose (Nernst himself used oxides of rare earths). This epoch-making discovery led at once to a series of far-reaching developments. In 1902, Auer von Welsbach placed on the market the first lamp having a metallic lighting filament—namely, the "projected" osmium wire manufactured by the German Incandescent Gas-Burner Company. A few years later the laboratories of the Siemens and Halske Company produced, mainly as a result of the work of Werner von Bolton, the tantalum lamp, the first practical incandescent lamp having a wire-drawn metal filament.

As a result of the competition inaugurated by this technical progress, the big firms brought the quality of their manufactures to such perfection and reduced the price so far that no outstanding technical advance by any individual firm could be anticipated in the future, and the bases and prerequisite conditions of an economic agreement had thus come into existence.

On the initiative of the A. E. G. and the Siemens and Halske Company, the incandescent-lamp manufacturers of Central Europe formed, in 1903, an international prices cartel for carbon filament lamps under the name of the "Verkaufsstelle Vereinigter Glühlampenfabriken" (Sales Service of the United Incandescent-Lamp Manufacturers) at Berlin. This sales service comprised eleven incandescent-lamp manufacturers—German, Austrian, Hungarian, Italian, Dutch and Swiss. The cartel agreement was concluded for ten years and three months and remained in force until March 31st, 1914. Scarcely was this combine formed, however, when its economic position was again assailed by further technical progress. In 1903, the German inventors Just and Hanemann had taken out a patent for an incandescent lamp using wolfram as the medium of illumination. Wolfram being an extremely brittle substance, however, they did not succeed in wire-drawing it; they had to make wolfram powder into a paste and use as their medium of illumination a wolfram *filament* projected across a nozzle. The next step was, of course, to find a process of wire-drawing wolfram, which was admittedly the best substance that could be used for lighting. The greatest measure of success in this field was obtained by the American incandescent-lamp industry, which applied the Hämmer process of working wolfram. The German firms were at once able to employ the same processes.

This technical co-operation was made possible as a result of the financial relations which had been established a short time previously between German and American companies. They began with the financial interest which the A. E. G. acquired in the Union Electricity Company. This offshoot of the General Electric Company, being in financial difficulties, concluded, in 1903, an agreement with the A. E. G. and amalgamated with it at the beginning of 1904. The first object of the combine was to delimit

sales areas, but it soon became an agreement for the mutual exploitation of the patent rights of the two companies. In 1906, the General Electric Company took out a licence from Siemens and Halske for the tantalum wire-drawing process. As a result, the General Electric Company succeeded, in the course of the following years, in wire-drawing wolfram by mechanical processes into fine filaments. Thus was evolved a process which, so far, has not been further improved in any essential particular. In 1911, the A. E. G. obtained a licence to use this process—the wolfram wire patent—on the basis of the existing financial agreement.

As the patents of the German Incandescent Gas-Burner Company (the Auer Company) and of the Siemens and Halske Company greatly hampered the economic exploitation of this licence, the A. E. G. in the same year granted the licence for the use of the wire-drawing process to both those companies. In this way was laid, in 1911, the foundation of the "Drahtkonzern" (Filament Trust), whereby the patents of three big German firms were pooled in order to obviate complicated and costly litigation.

The great increase in consumption in the years 1904-1912 led to the creation of a large number of new firms. Of these, only the Bergmann Electricity Company succeeded in establishing itself in a permanent position. All the others had to yield gradually to the pressure of competition, leaving the big firms supreme. Their doom was sealed when the Reich Court in 1917 recognised the patent for the Wolfram wire-drawing process; the Julius Pintsch Company escaped being eliminated from the market by the big firms owing to a special process whereby it secured a monopoly of the "crystal" filament.

The Drahtkonzern merely established the common use of patents. Even in technical matters, however, each member of it went its own way. Each of the three firms exchanged manufacturing processes with the American General Electric Company, but, in this respect, they remained entirely independent of each other. No prices agreements were concluded. Each firm retained entire economic autonomy.

No new technical changes in production likely to disturb the market took place, and it was only shortly before the war that the incandescent lamp was further improved by being charged with gas.

While, in the home market, the big firms were trying to extend their sales by lowering their prices and improving the quality of their products, fresh moves towards more comprehensive international agreements were made by indirect methods, through the international exchange of patents. In 1912, the British branches of the three big German incandescent-lamp works concluded with the British incandescent-lamp manufacturers an agreement for the mutual use of licences in England. In order to settle licence questions in France and elsewhere, a contract was concluded in the same year between the big German firms, including their branch companies, on the one hand and the French company for the exploitation of the Thomson-Houston processes on the other. Other licence contracts were concluded with the Bergmann Electric Works at Berlin at the end of 1912, with the Dutch Philips Incandescent-Lamp Works in 1913, and in the same year with the Watt Company of Vienna and the United Incandescent-Lamp and Electricity Company of Ujpest, near Budapest.

The war led to the breaking-off of the international relations between the electric-lamp manufacturers of the belligerent countries. In Germany, the war and the drop in exports led at first to a considerable fall in the manufacture of electric lamps. The industry revived again, however, through the increase in the needs of the army. The over-production that existed before the war disappeared, as did also the difficulties which lamp manufacturers had experienced through the special requirements of individual customers. Before the war, these requirements had necessitated the manufacture of no less than 3,000 varieties of lamp.

On account of the changes which took place in conditions of sale, the German incandescent-lamp manufacturers formed, in 1917, a prices cartel comprising, besides the companies which were members of the Drahtkonzern, the Julius Pintsch Company, the Radio-Electric Company (Wipperfürth), the Wolfram Lamp Company (Augsburg) and the Bergmann Electricity Works. The cartel agreements related primarily to the fixing of increases in prices. Upon the establishment of this prices cartel, the incandescent-lamp industry was completely transformed, and the electric lamp, which had hitherto been the special product of particular works, became more and more a standardised article. At the same time, cartel arrangements were concluded with the incandescent-lamp works of Central Europe. These arrangements were assisted by the fact that the firms of Kremenczky of Vienna, in 1916, and Meteor of Vienna, in 1917, became parties to the licence contracts concluded with the Drahtkonzern.

By the end of the war, the position of the German incandescent-lamp industry in the world market had completely changed. The foreign branch factories of the big German trusts had continued to develop as a result of the war-time demand and had begun to compete with the German electric-lamp industry. Not only had the Osram factories in France and England been sequestered, but the "Osram" mark was lost to the German industry and passed into other hands. The well-known Osram make was thrown on the market and crippled the sale of German articles. Moreover, in many countries, new factories were opened which, as a result of the campaigns launched in favour of "protection for home industries", found strong support in those countries. The German electric-lamp industry had to find means to compete with these industries, which as a rule were highly protected, because the German home market had never been large enough to absorb the output of the German industry. The protection of German electric lamps exported amounted before the war to 57 per cent. The German industry, however, could not hope to reach this proportion again unless it supplied high quality lamps at lowest prices. As a certain amount of co-operation had existed for some ten years between the big firms, expenses could not be further reduced to any appreciable extent except by the centralisation of the industry. Accordingly, the system of exchanging patents among the big firms was developed into a close union of those firms. For this purpose the Osram Limited Liability "Kommandit" Company was formed in 1919, comprising all the works of the German Incandescent Gas-Burner Company, the A.E.G. and the Siemens group. After this fusion, not only was the special experience of each of the big firms placed at the general disposal for improving the technique of production, but—most important of all—the production of electric lamps was centralised just as the organisation of sales was unified. The German industry was still further centralised by the financial participation of the Osram Company in a number of other electric lamp works. The German Incandescent Gas-Burner Company had already absorbed the Wipperfürth Radio-Electric Company, and brought this amalgamation with it into the Osram Company. Similarly, when the Trust was founded, the Augsburg Wolfram Lamp Company, which the founders of the Trust had jointly acquired, was also incorporated.

International connections were further extended by the acquisition of part-interests in other firms or the creation of new firms by the Osram Company. The first firm which joined the Trust on its formation was the Fábrica de Lámparas, of Madrid, jointly founded in 1924 by the German electric-lamp firms. In its first year, the Trust acquired the majority of the new Prague Osram Company's shares, in the second year, the majority of shares of the Drammens Lampefabrik Company, of Drammen, near Oslo, and, in the next year, those of the new Osram Polska Żarowska Electric-Lamp Works of Warsaw. The Trust subsequently took a 50 per cent share

in the Swiss Aarau Electric-Lamp Works Company, and in the Vertex Electrical Works of Vienna, an Austrian limited liability company belonging to the Swiss Electric-Lamp Works. The relations with these last two undertakings were changed at the end of 1924, as the Aarau Electric-Lamp Works was incorporated in the new Swiss United Incandescent-Lamp Works of Goldau (Licht A.G.), the Vertex Works then becoming an independent undertaking. The Osram Company still retained a 50 per cent share in the Vertex Works (the other half belongs to the Philips Electric-Lamp Works of Eindhoven) ; its share in the Goldau Company fell to 25 per cent, the Philips Electric-Lamp Works also holding a 25 per cent share. Further, the Osram Company acquired an interest in the Nordisk Glødelampeindustri of Copenhagen, and in 1928-29 in the A.B. Elektraerkeren of Stockholm, and, lastly, the Società Edison Clerici of Milan.

The relations between the German electric-lamp manufacturers and those of Central Europe were terminated as a result of the war and the national economic policy of the Austro-Hungarian Succession States. As early as 1921, however, a prices and territorial cartel was again concluded between the Central European electric-lamp manufacturers. On the initiative of the Osram Company, there was founded the International Union for Regulating Prices of Incandescent Lamps (Internationale Glühlampen Preisvereinigung (I.G.P.)), a registered company with its seat at Berlin. Seven Central-European firms belonged to it, including—apart from the German group—a Hungarian company, a Netherlands company, a Swedish company, an Austrian company and a Swiss company. Most of the non-German members were not financially connected with the Osram Company. Of the German firms, the Julius Pintsch Company alone remained outside the international cartel, and that only for a short time.

The I.G.P. fixed common prices and common conditions of delivery and payment.

Despite the advantages it acquired through currency inflation, the Osram Company experienced great difficulty in regaining its former position in the British market and in extra-European countries, which it had lost through the war. By the contract concluded in 1921 between the Osram Company and the British General Electric Company of London, an agreement was reached regarding the British market and other areas. The friendly agreement concluded in 1922 between the American General Electric Company and the Osram Company was of particular importance. Besides an arrangement regarding the exchange of patents and of the results of experimental work, this agreement marked out exclusive sales areas for the two contracting parties, and thus set territorial limits to the competition between these undertakings by applying for the first time the principle of the protection of the home market. Although the Osram Company was able to develop its productive capacity very considerably during the inflation period, it did not succeed in regaining its pre-war position in the consuming countries of Western Europe or in England, formerly its best customer. Indeed, it seemed likely that, as a result of the development of the industries of various countries, particularly the Netherlands and England, price-cutting would become keener both in the European market and overseas. Consequently its policy, like that of its most powerful rival, the American General Electric Company, was to attempt to group together all the electric-lamp works of the world, not merely for purposes of common production, but in a cartel for the allocation of markets. At the end of 1924, its efforts resulted in the conclusion of the Convention for the Development and Progress of the International Incandescent Electric Lamp Industry.

Before describing the construction and operation of this international agreement, a summary sketch might be given of the equally interesting history of the growth of the other large manufacturer of incandescent lamps in the world.

In 1929 the American incandescent lamp industry commemorated the fiftieth anniversary of the Edison incandescent lamp, and thus has the longest history behind it. This fact alone is sufficient to give an idea of the important part which the American industry has played in the incandescent lamp industry of the world. Taking full advantage of its privileged position, it has, from the outset, followed the policy of concluding international agreements. The list is headed by the General Electric Company, which is one of the so-called "general concerns", and has the largest output of incandescent lamps in the world—a fact that is not surprising in view of the size of the American market. Its interests abroad are represented by the International General Electric Company, which has holdings in foreign concerns or has concluded agreements with them. These agreements relate in particular to the exchange of patents and experience and to the delimitation of the respective fields of interest. The most important conventions are those with the German Osram Company, the Dutch Philips Incandescent Lamp Works, the Hungarian United Incandescent Lamp and Electricity Company, the French Compagnie des Lampes, the British General Electric Company, the British Thomson-Houston Company, the Austrian firm of Johann Kremenezky, the German Julius Pintsch Company, the Japanese Tokio Electric Company, etc. Moreover, it has financial interests in some of these firms, such as the Osram Company, the Philips Company and the British Thomson-Houston Company. It also has branches abroad or concerns which it runs jointly with third parties. Then—some way behind—comes the Westinghouse Electric Manufacturing Company of Pittsburg, which is also a "general concern". These two concerns, together with the licensees of their patents, in themselves cover most of the requirements of the North American continent. In 1928, according to information supplied by the National Electric Light Association, the total sales in the United States amounted to 312 million normal incandescent lamps, 227 million small lamps and approximately 10 million carbon filament lamps.

The history of the Dutch production of incandescent lamps may largely be summed up in the name Philips of Eindhoven. Founded in 1891 (it was not until later that it turned its attention to other branches of manufacture), the firm developed very greatly during the war, by securing most of the foreign markets. Associated with it are the two Dutch firms of Pope and Volt and a whole series of foreign undertakings, in Poland, Norway, Spain etc. Quite recently it also founded an incandescent lamp factory in Italy.

In France, a policy of concentration was pursued on the initiative and under the direction of the Compagnie des Lampes formed in 1921 through the amalgamation of the lamp departments of the Compagnie Française Thomson-Houston, the Compagnie Générale d'Électricité, and the Établissements Larnaude, which firms were at that time responsible for most of the French output.

The Compagnie des Lampes was also aided by the terms of Conventions concluded with the International General Electricity Company of New York whereby it secured on the widest scale the assistance of American specialist engineers and benefited by the very considerable improvements effected in the United States in the manufacture of lamps during the war.

Since its foundation, the Compagnie des Lampes has regularly carried out a policy of concentration by obtaining a majority of shares in various other lamp firms in France and abroad and in particular by absorbing two large French companies—the Compagnie Lorraine de Lampes (lampe Faust) and the Société Lacarrière (Z lamp).

Apart from its own activities, the Compagnie des Lampes is spreading its influence abroad by means of subsidiary companies, the principal of which are its Spanish Company with works at Madrid, and the Compagnie des Lampes d'éclairage et de

T.S.F. de Lausanne. Lastly, its patents are used by licensed works, the chief of which in France are the Maison Visseaux and the Etablissements Grammont.

In England, there exist a number of medium-sized and small firms engaged in the manufacture of incandescent lamps, though some of these firms are inter connected, and some have close connections with the United States of America. Since 1919, all the larger producers amalgamated to form the Electric Lamp Manufacturers Association (Elma). The largest firm is the British General Electric Company founded in 1900. Since 1928, the Ferguson Company, the Metropolitan Vickers Electrical Company (originally a Branch of the American Westinghouse Company), the British Thomson-Houston Company (founded in 1896) and the Edison Swan Electric Company have been amalgamated as the Associated Electrical Industries, Ltd. There are also Siemens Electric Lamps and Supplies, Ltd. (formerly Siemens Brothers and Company, Ltd.), and the British Electric Company.

In recent years, the manufacture of incandescent lamps has also come to the fore in Italy. It consists of a large number of small makers with private factories. Foreign capital, however, is invested in it : the German Osram Company is largely interested in the biggest factory, the Osram Società Riunite Osram Edison Clerici, the origins of which go back to the year 1885.

The Italian manufacturers produce not only for the the home market, but also for export. Recently, negotiations between a number of the larger manufacturers and the members of the world agreement interested in the Italian market, have led to a special agreement.

The parties to the World Electric-Lamp Convention comprise about twenty-seven principal firms, including eight trusts consisting of thirty-six affiliated companies. The Convention to-day covers eighteen countries where works are or were domiciled. The only countries still outside are the United States and Canada, which are only indirectly interested in the agreements.

New firms applying for admission to the electric-lamp cartel are accepted, provided their reputation is satisfactory and provided they agree to the quotas fixed or the other obligations imposed.

Producers who are not parties to the cartel, apart from the United States of America and Canada, manufacture about 10 per cent of the world output of electric lamps. A number of German producers who are not parties to the cartel are grouped in the Niedervelt Manufacturers' Union. The members of this group obtain crystal filaments from the Julius Pintsch Company.

EXCHANGE OF INVENTIONS AND OF RESULTS OF EXPERIMENTAL WORK.

Under the terms of the Convention, each party obtains, during the period of validity of the Convention, the right to utilise the inventions and experiences of the other parties on payment of the usual licence fees. An arbitral tribunal is appointed to decide claims regarding the taking out or infringement of patents. The parties are also bound to allow co-contracting parties to visit their laboratories and workshops at any time. The rationalisation of production, stocks and sales is assisted by agreements regarding the standardisation of electric lamps and the reduction of the number of varieties. Technical supervision of the firms parties to the Convention is also provided for and the quality of their products is checked. This last-mentioned work is carried on in a special laboratory, to which the parties to the Convention must send samples of their products. Propaganda in favour of the use of electric lamps is carried on on behalf of all the parties through the intermediary of the " Lichtwirtschaft ".

REGULATION OF PRICES.

The Convention does not provide for the joint sale of products, nor is price-fixing a condition or an integral part of the Convention. The regulation of prices is left entirely to the members interested in the trade of the various countries. It is facilitated, however, by dividing up the world trade according to countries of origin and common territory.

REGULATION OF SALES.

There is no limitation of output, each party being free to produce as it thinks fit. Production is indirectly regulated, however, by the limitation of sales and the allocation of sales areas—*i.e.*, by sharing the world trade. The sales quotas of the various members are determined by the actual sales during a specified basic year, the various types of lamps being brought to a single basis (unit lamp). Members must also share, in the proportion thus fixed, in any increase in world trade. The aggregate quota is divided into national quotas for the various countries of origin (mainly countries having large electric-light industries) and in national quotas for the rest of the world (common territory). The allocation of quotas to the various members is determined by the actual sales during the basic year. Any firm having no sales at all in a country in the course of that year may sell its products there afterwards. As regards countries in the common territory, a firm may, if it does not reach its full quota in any one country, make up the difference from its sales in another country forming part of the common territory. On the other hand, if a firm does not reach its full quota in its country of origin, it cannot seek compensation in the common territory. If a firm exceeds its quota, it must pay, according to a fixed scale, fees for the benefit of the firms whose quota has not been fully realised. The payment of these fees is secured by the sums deposited with the Phœbus Company by each of the firms parties to the Convention.

PHŒBUS COMPANY.

In order to apply the terms of the Convention the Phœbus Company was formed with its seat at Geneva. Switzerland was chosen as the seat of the administrating company in order to ensure as far as possible independence of the divergent laws of the various countries. The Phœbus Company acts as an administrative organ for the parties to the Convention, its capital being 500,000 Swiss francs. It acts as an intermediary for the exchange of methods of manufacture and for the acquisition of patents. All members of the Convention are partners in it. The partners undertake to transact their business in accordance with the terms of the Convention, and to obey the instructions of the company's organs. All obligations are subject to high penalties, the payment of which is guaranteed by the deposit of considerable sums by way of security, the actual amount depending on the business turnover of the individual partners.

ARBITRAL TRIBUNAL.

For the settlement of disputes, a special arbitral tribunal has been formed, at the head of which is a Swiss professor of international reputation, having as his assessors a Swiss federal judge and a technical expert on international cartels. This arbitral tribunal gives a final award in all disputes and differences of opinion. The execution of arbitral awards is guaranteed by the fixing of high security.

The organs of the World Convention are as follows :

The General Assembly, which meets as a rule once or twice a year. The members' right to vote depends on the amount of their share quota during the basic year, a vote being given for each million unit lamps. The small producers selling less than a million lamps may form groups among themselves.

The Administrative Board, which watches and directs the application of the Convention and to which the committees mentioned below and the national assemblies of manufacturers may appeal in the first instance. In the measures it takes the Administrative Board must pay due heed to the decisions of the General Assembly and of the provisions of the Convention. It may, however, take any administrative or executive measures which it deems necessary or expedient for the application of the Convention.

Besides the Administrative Board there is the *Executive Committee*, which at present consists of six members chosen from the Administrative Board. The Executive Committee takes decisions on current business, particularly financial affairs.

The Business Development Committee is composed of at least five members ; at present there are seven. It takes decisions regarding the general policy of commercial development and informs the national assemblies of the general lines on which such questions should be solved. The term "business development" in this connection means the development of the use of electric light.

The Sales Committee, composed of at least five members—at present of seven—decides the general sales policy and gives the national assemblies general directions for the fixing of prices and conditions of sale in the various territories.

The Standardisation Committee, consisting of five technical experts and five traders, takes decisions regarding standardisation, including the simplification of manufacture and the reduction of cost prices. The final object of standardisation is to bring about complete uniformity as regards external form, internal structure, dimensions and lighting power of all products of the firms parties to the Convention. This aim, however, has hitherto been attained only as regards the lamps most commonly used for general lighting purposes.

Besides the Standardisation Committee, there are also *purely* technical committees, which discuss special technical questions and recommend decisions for adoption by the competent Committees, the Administrative Board or the General Assembly.

In addition to the above-mentioned Committees, there are also special Advisory Committees, which assist the Director-General in legal questions and in any questions raised regarding the calculation of quotas.

NATIONAL ASSEMBLY.

In each country of origin and each country of the common territory there are national assemblies which have to settle local sales questions. Their duties consist primarily in fixing prices and conditions of sale. Their decisions are taken by a three-quarter majority.

The offices of the Phæbus Company are subdivided into three principal services : Administration (including accounts and statistics), Sales, Supervision Service, and

Technical and Commercial-Development Service. There is also a laboratory for testing lamps.

A number of producers parties to the Convention only acceded to it during the first year or later. Moreover, a number of small lamp manufacturers are attached to the trust by special contracts granting them certain rights regarding the acquisition of patents, the exchange of results of experimental work and sales. Their obligations are limited to the same extent as the rights accorded to them.

EXTENT AND EFFECTS OF THE CONVENTION.

Almost all the well-known manufacturers of electric lamps throughout the world are to-day bound together by the World Convention or by other agreements and financial interests. The United States of America, though not a party to the Convention for Development and Progress, through its numerous international relations, exercises an influence on the electric lamp industry in Europe and overseas.

On the other hand there are no contractual relations with Russia. The Russian incandescent-lamp industry, however, works almost exclusively for the home market.

A considerable reduction in the number of types has been brought about in the current categories of lamps. In Germany, as a result of this standardisation, about 80 per cent of the lamps produced for everyday use belong to the new standard series.

The *guiding principles* followed in *price-fixing* depend upon the competition with prices abroad, but also on the prevalent tendency in the incandescent-lamp industry to *increase profits by increasing sales*.

Since the conclusion of the Convention for Development and Progress the *prices of electric lamps* have considerably decreased in Germany, the prices of gas-charged lamps having been brought down to the lowest prices of vacuum lamps and prices having also been reduced through standardisation. The categories of lamps chiefly used for general lighting up to 60 watts cost the consumer in 1929-30, on the average, 1.09 RM. each, exclusive of tax, as compared with 2.03 RM. in 1913-14. When the World Convention was concluded (1924-25), the price was 1.22 RM. Since the conclusion of the World Convention, German prices have thus decreased by 11 per cent, and if the pre-war price is taken as 100, the price for the year 1929-30 is thus 54.

A similar price policy was followed in respect of the other countries of Europe, so that, since the conclusion of the World Convention, prices in all those countries have followed the same course as in Germany. As regards overseas countries, the price policy has taken a different direction. Once an end was put to the struggle for markets, which resulted in insufficiently remunerative sale prices, or even occasionally prices below cost, an attempt was made to allow in the price for the extra cost of transport and distribution over and above that obtaining in the home market.

The low level to which the incandescent-lamp manufacturers have been able to reduce their prices—as compared with pre-war prices—has only been possible owing to the far-reaching measures of rationalisation which they have been able to apply through the Convention, and of the financial understandings that have been reached. The co-operation of the various firms in technical and commercial matters has resulted in a considerable lowering of the costs of production and sale. It is difficult to determine how far the consumer has benefited from these economies in production and sale.

Whereas the *world business turnover* in electric lamps increased by only 9 per cent between 1913-14 (taking the figure for that period as 100) and 1920-21, the subsequent years show a falling-off, due to the inflation disturbances. After reaching,

in 1923, a minimum of 41 per cent of the 1913-14 figure and rising in 1924-25 to 97 per cent the business turnover reached 181 per cent in 1925, 191 per cent in 1926, 211 per cent in 1927, 238 per cent in 1928 and about 256 per cent of the pre-war figure in 1929. These figures do not include the big consuming countries (the United States of America and Canada).

The total sales figures of the Osram Company are given below as an example :

Years	Business turnover in millions of unit lamps	
	Whole world	Germany
1925-26	115.4	64.7
1926-27	120.0	72.0
1927-28	149.1	89.1
1928-29	160.5	94.5

This increase in business turnover cannot be regarded as solely due to the World Convention ; other causes have also contributed their share, more particularly the general increase in the use of electricity. No doubt, however, this increase has been assisted by the uniform and large-scale propaganda of the " Lichtwirtschaft " and by the low price of electric lamps as compared with the pre-war period.
