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A Record of British Industry

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BRITAIN IN DEPRESSION

BRITAIN IN DEPRESSION

A RECORD OF
BRITISH INDUSTRIES SINCE 1929

PREPARED BY A RESEARCH COMMITTEE OF THE
ECONOMIC SCIENCE AND STATISTICS SECTION
OF THE BRITISH ASSOCIATION

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PREFACE

THE widespread and rapid changes brought about by the Depression since 1929 have made a chronology of events and a guide to the various official and non-official sources of information indispensable to research workers investigating the economic and industrial problems of the last five years. The Committee of the Economic Science and Statistics Section of the British Association for the Advancement of Science therefore requested the Council of the Association to appoint a committee to prepare a record of the world crisis in so far as it has affected British industries. The committee appointed consisted of the following members—

Professor J. H. Jones (Chairman).
Professor H. M. Hallsworth.
Professor J. G. Smith.
R. F. Harrod.
A. Radford.
P. Ford (Secretary).

This volume is the Committee's Report. Its primary aim has been to record the principal events and to indicate sources of data, rather than to provide interpretation. As far as is practicable, the section on each industry gives a brief statement of the position and problems of the industry before the onset of the depression in 1929, traces the main changes since that date, and provides a full bibliography.

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PART I
GENERAL

INTRODUCTION

By PROFESSOR J. HARRY JONES, M.A.

INTRODUCTION

DURING the war of 1914–18 a Research Committee of Section F of the British Association published a series of volumes which contain an account—adequate for most purposes—of industrial and financial changes necessitated by the crisis through which the country was passing. The work of the Committee attracted less attention than it deserved. So long as the war continued it monopolized the energies of almost everybody; when it came to an end most people were too anxious about the immediate future to be interested in a past which apparently constituted a breach of continuity and was therefore useless as a guide. But the value of the reports to historians of the period is now more generally recognized. They contain documents that have acquired a scarcity value; full and accurate accounts are given of events that could not otherwise be investigated by later historians without laborious effort or, indeed, with any prospect of reaching their heart. For it will be extremely difficult for future historians to recapture the "psychology" of the nation in time of war and to understand fully the significance of the internal economic forces that produced or influenced war-time changes.

But the reports also possess value to those of us who lived through the events that they describe. Memories are short and recollections apt to be faulty. The work of the Committee was confined to the war period. Since then we have had no contemporary account of economic changes beyond those contained in current journals; we are compelled to rely upon our recollections of the past or to accept the heavy task, not merely of consulting sources of information, but also of searching for the sources likely to contain the information that we need. Being as lazy as we dare be, most of us prefer the former and thereby frequently fall into error. In any case the alternative imposes an impossible task upon the average individual.

It was for these reasons that, in September, 1933, the Committee of Section F decided to appoint a Research Committee

to prepare a record of industrial and financial changes in Great Britain during the present world depression. The chief function of the Research Committee was to decide the form that the record might take and to invite others to collaborate in its preparation. The present volume is the result. I should add that while the purpose and general lines of the investigation were indicated to the contributors, each was invited to interpret his task in his own way. Not only is it generally impossible to reduce economic research to a set of standardized questions, but it was obvious that no two industries could be treated in precisely the same way. For this reason the readers of the volume will find no attempt at rigid uniformity of treatment. Some writers pay more attention than others to developments preceding the actual depression of the past five and half years. Moreover, as the process of writing and publishing is a lengthy one, the narrative of event and experience does not include any reference to the present year. Whether it will be continued in the future is a question that I cannot answer. No readers can be more keenly aware of the defects of and gaps in the present volume than the contributors themselves. But it is submitted in the hope not only that it will prove a useful fragment of recent history but also that it will show the need for a similar effort on a larger scale.

It has been left to me to write a general introduction, presenting the background (as I see it) to the volume. Before proceeding farther it is right—and pleasant—to record the indebtedness of the Committee and the contributors to the Honorary Secretary, Mr. Percy Ford. His has been a thankless task. Many other contributors, like myself, would plead guilty to the charge of having increased its difficulty. No secretary with whom I have worked has been more efficient, more patient, more tactful; for which reason no chairman has had less to do. Mr. Ford has made this volume possible.

It is convenient, for many purposes, to divide the history of industry and finance since the war into three periods. The first of these includes the years 1919 to 1923, the second the years 1924 to 1929, and the third the period of world depression. I

offer no justification for this sharp division beyond that of convenience. Economic events do not respect the calendar. It was not an accident of administration, however, that the year 1924 was afterwards adopted as the base year for statistics published by the Board of Trade.

1919–1923

During the first period the world lived under the impression that it was suffering from the "temporary" effects of the war. Writers used expressions such as the "aftermath of war," the "abnormal conditions created by the war," and "industrial reconstruction." Great Britain passed on from one "crisis" to the next, always in the shadow of the war. We looked back rather than forward; the year 1913 was always present in our minds and regarded as a standard to be aimed at; we rarely doubted the desirability of "restoring pre-war conditions" which, in restrospect, seemed closer to the ideal than anything we had afterwards experienced. Some features of that period call for comment in the light of subsequent history.

The war was followed by a boom in industry and trade which endured for approximately eighteen months in this country and was associated with a rapid and substantial increase in the volume of currency and a corresponding rise in prices. Currency inflation, as always, brought considerable fortunes to some and poverty to others. In particular it injured workers in the steadier —or "sticky"—industries and occupations and led to claims for higher remuneration. Before these had been fully met the boom had collapsed, industrial depression had set in and the wages problem had undergone a substantial change.

In November, 1919, the Treasury issued a Minute controlling the issue of currency. Currency control necessitated credit control. The restriction in the issue of currency and credit prevented further inflation and apparently created a "stabilization crisis." To many observers the depression that started late in 1920 appeared to follow as effect follows cause. The depression, however, was not confined to this country: not only was it world-wide but it appeared in other countries, such as Japan and the United States of America, earlier than in Great Britain.

For this reason the simple explanation suggested by the sequence of events commonly quoted cannot be accepted as adequate.

The depression appeared to reach its maximum in the winter of 1921–22, and by the end of 1923 production and trade in this country had materially increased. Meanwhile an important change had occurred in the industrial situation. The depression was felt first, and most acutely, in those industries that were exposed to foreign competition, more particularly the exporting industries, including coal-mining, cotton manufacture, steel production, engineering and shipbuilding. The result was a series of reductions in wages rates that were not immediately shared, or even later fully shared, by those employed in public services and in private industries (such as the printing and building industries) of a more sheltered character. The disparity between "sheltered" and "unsheltered" wages became a problem of the first importance.

During the period 1919–23 the currencies of most European countries, and of many outside Europe, were very unstable. The gold standard had been swept away by the war, most countries had passed through a period of currency inflation and some had so completely lost control that not even the world depression was able to check inflation. The centripetal force known as the gold standard had been destroyed, and currencies were at the mercy of centrifugal forces within each country. Rates of Exchange were so erratic that international trade was exposed to a new and serious risk.

The current value of the currency of one country in terms of other currencies is determined by the "balance of payments," including movements of funds. Changes in the ratio of debts to credits produce changes in the external value of sterling or any other currency. Such changes, however, represent deviations from a normal rate known as the par of exchange. Under the gold standard the par of exchange is determined by the amounts of gold represented by the units of currency employed in different countries. Thus, for example, a pound was normally worth $4.86 because the two sums represented the same amount of gold. When the gold standard has been suspended, currencies are no longer tied to each other by being tied to gold. Under such

circumstances the normal external values of currencies are determined by relative price levels. Thus, for example, if the suspension of the pre-war gold standard had been followed by a rise of a hundred per cent in the price level of Great Britain, without any change in the American price level, the (normal) dollar value of sterling would have been reduced by one-half.

This simple statement raises many issues that must be ignored in a short introduction. I shall refer only to those which are essential to an appreciation of the recent history of British industry and trade. My first point is that the fluctuations in the value of sterling during the first period under review represented, in part, fluctuations about the normal value (technically termed "purchasing power parity") and, in part, changes in the normal value itself. The fall in the (sterling) prices of exported commodities (due to repeated reductions in "unsheltered" wages) meant a rise in the normal value of sterling. The sweeping reductions in wages in unsheltered industries, which raised the external value of the pound, thus failed to bring relief, or corresponding relief, to exporting manufacturers and merchants. But they helped to create an unstable wage structure.

By the end of 1923 British industry and trade had made considerable progress, but the greater part of such progress was to be found in industries that supplied the home market. In spite of the temporary stimulus to the coal-mining industry given by the French occupation of the Ruhr district of Germany, it is true to say that Great Britain was already being divided into two economic areas, the prosperous south and the depressed north—including South Wales. New industries were springing up in the south, while the depression in the "unsheltered industries" of the north persisted.

The depression in such industries was attributed to the post-war poverty of other nations and the world-wide currency disturbances. It was still generally believed that the recovery of other nations would be accompanied by the recovery of our exporting industries. The growth of trade in and between nations bordering on the Pacific Ocean and the continued depression in Atlantic trade, which was the subject of comment in the publications of the Economic Section of the League of

Nations, was regarded as a temporary phenomenon. It was also widely believed that in due course the tariff walls built after the war, around new and old countries, would be reduced in height, if not demolished. The great majority of observers believed that trade recovery would mean a general recovery and the restoration of the pre-war economic structure. Moreover, the restoration of the gold standard was regarded as a pre-requisite of such recovery.

1924–1929

The first of the three periods into which our post-war history has been divided was characterized by instability in all departments of economic activity. Prices shot upwards during the post-war boom and fell heavily during the subsequent world depression. Wholesale prices rose far more rapidly and to a greater height (relatively to the pre-war height) than retail prices and afterwards fell more violently and to a lower point than the latter. The fluctuations in prices were but a reflection of the general instability of industry and trade. By 1924 the wider fluctuations had disappeared; the world depression had apparently passed away leaving, in some countries, special problems created by national conditions. If the reader consults the chart that accompanies this introduction he will find that in the year 1924 the pre-war relationship between wholesale and retail prices in the United Kingdom had been restored. He will also find that unemployment had reached a level which was maintained with but little variation until the advent of the world depression in 1929. Again, in most of the important countries (excluding Germany) currencies had become more stable, rates of exchange had become steadier and a return to the gold standard appeared to be within reach. During that year the old German currency was completely destroyed and a new currency, based upon gold, was established. In the following year most of the important countries, including Great Britain, restored the gold standard, and for approximately six years gold became once more the controller of currency and credit policy.

The second period was a period of rapid growth in industrial production in most parts of the world. Most of the important

countries appeared to be shaking off the effects of the war, Atlantic trade was increasing and, in the economic sense, the future seemed to promise still better results. If we examine the chart of exports and imports, we find that the United Kingdom appeared to make no real advance. This chart, however, should be considered in conjunction with the price chart, which shows a steady fall in the wholesale price level during the period under consideration. It is clear that the volume of foreign trade, as distinguished from its value, increased. On the other hand, it is equally clear, from an examination of the chart of unemployment in all industries, that the recovery of British industry and trade was merely partial and that the country was suffering from a persistent depression that had not been expected in previous years. Even the Balfour Committee on Industry and Trade, after a close examination of the industrial situation, attributed the depression of 1923 to world factors and expressed the view that if and when the world as a whole recovered there was no reason to suppose that Great Britain would not once more enjoy her former share of world trade. This persistent depression, as distinguished from the earlier world depression, calls for comment.

By 1924 the south of England had recovered its prosperity and even become a strong magnet for new industries and the unemployed workers of other parts of the country. The depression of 1924 onwards was concentrated upon the industrial north (including South Wales), in other words, upon the exporting industries to which reference has already been made. Throughout the second period there was a rapid growth of industry in the south and a steady migration of unemployed workers from the north in search of employment in the new industries. The causes of this industrial change are so well known that they need be but briefly indicated.

Three main causes were at work: the industrialization of other countries, the growing use of substitute products and the currency policy of Great Britain. While in practice these were closely interwoven, it is desirable to consider their operation separately.

The outstanding illustration of the effect of the industrialization of new countries is the cotton industry of Lancashire which, before the war, exported a large proportion of its total output

to the Far East. It was not to be expected that progressive countries, such as Japan, would permanently refrain from developing a competing industry, based upon European technique. Even before the war the production of Eastern countries had been steadily increasing, but the war, by interrupting trade, caused a still more rapid growth, which was further accelerated by the use of electricity as a source of power and the introduction of technical devices to overcome climatic difficulties. Such a change is obviously of a permanent character.

The cotton industry is not, however, the only illustration of the growth of foreign competition. In most cases the growth was fostered by tariff policy; most countries endeavoured to reduce their economic dependence upon others by creating or enlarging barriers against imports. In more than one European country, for example, efforts were made to increase the domestic production of coal or its alternative, lignite. Other countries sought to increase their output of wool textiles, boots and shoes, and other elementary products, while a number of maritime countries employed subsidies for the purpose of increasing shipbuilding. In short, the feeling of insecurity following the war materially reduced territorial division of labour and the economic interdependence of nations. International trade ceased to be governed by considerations of national efficiency and costs and the world rejected the opportunity of securing that rise in the standard of living which science and invention had made possible. By so doing it permanently injured the position and prospects of some of our chief exporting industries and, consequently, of the areas in which they are situated.

It should not be forgotten, however, that the injury caused by this policy is less serious than it would have been at an earlier date. Electricity and other sources of power have reduced the dependence of industry upon coal and correspondingly reduced the dependence of other countries upon coal-producing countries. In many industries natural resources are of less account and technical processes and human intelligence of greater account than in the past. As no country possesses a monopoly of intelligence it was to be expected that science and invention would tend to produce a wider distribution of industry or, alternatively,

a more refined application of the principle of regional division of labour than had been the case in the past. The growing use of substitutes, and therefore of alternative industries, was also a factor in the depression of the exporting industries. Electricity, gas and oil were increasingly used as sources of light, heat and power, and therefore permanently affected the demand for coal; road transport was increasingly used in place of railway transport; larger and faster cargo liners were taking the place of slower vessels (including tramp steamers) in dealing with a reduced volume of world trade.

It is clear, from these illustrations, that a group of industries, more particularly cotton manufacture, coal-mining and ship-building, had grown too large for the requirements of the markets available to British industry and that the persistent depression in such industries represented a real excess not merely of current output but also of producing capacity. The changes to which reference has been made had destroyed the industrial balance of the country. Further, as already stated, the readjustment that was slowly taking place took the form of industrial expansion in the south of England. This southward movement, which was but one phase of the general movement of industry throughout the world, was also mainly due to the growing use of electricity, which enabled the markets for the products to exercise a more powerful attraction upon the industries supplying those products.[1]

But the difficulty of restoring the exporting industries to their former position was increased by the currency policy of the nation. It has been estimated that in 1924 the normal value (or purchasing power parity) of the pound, when expressed in American currency, was about 4.40 dollars.[2] During the year, however, the actual value steadily increased until, early in the following year, it exceeded 4.80 dollars. This rise was due mainly to a movement of American funds to this country in search of a higher rate of interest and in anticipation of a return to the

[1] The difficulty of the shipbuilding industry was intensified during this period by the policy of disarmament. It has been estimated that between one-fifth and one-quarter of the pre-war tonnage produced in Great Britain consisted of war-ships of various kinds for this and other countries. The direct and immediate effect of disarmament upon the industry will therefore be obvious.

[2] This seems to me a serious over-estimate.

gold standard at the pre-war parity, when pounds would be convertible into dollars at a rate of 4.86 dollars to the pound. In April, 1925, the gold standard was restored, the pound being given its pre-war gold value, although such value was obviously higher than that dictated by economic conditions. In other words, the pound was over-valued.

The meaning of over-valuation may be stated very simply. The rise in the British cost and price level had been so much greater than that of the American cost and price level that, if British industries were to compete on the same terms as in pre-war days, the pound should have been convertible into (say) 4.40 dollars. If, therefore, the pound was convertible into 4.86 dollars, it was obvious that the prices of British goods, when expressed in dollars, were higher than they should have been by approximately 10 per cent and that therefore British industry was suffering from a currency handicap of approximately 10 per cent of the total cost. Consequently, in order that British industry might be able to compete with the same degree of relative success as in pre-war days, it became necessary to reduce British costs and prices by 10 per cent relatively to American costs and prices. That was the immediate task, therefore, imposed upon British industry by the currency policy of the Government. It does not follow, however, that the policy was not justified. It might be argued, for example, that the restoration of the gold standard was only possible at the pre-war parity and that it was a pre-requisite of the world development of industry and trade that followed during the second period. It might further be argued that even under the currency handicap British exporting industries enjoyed greater prosperity through this world development than they would have done if the gold standard had not been restored. I am not here concerned with such a controversial issue. It is sufficient for my present purpose to indicate the immediate task imposed upon British industry by the currency policy of the Government.

Reference has already been made to the disparity between "sheltered" and "unsheltered" wages. It was clear that such a disparity could not continue indefinitely, and that sooner or later wages in the two groups of industries would need to be

restored to their appropriate relationship. The task imposed upon British industry was therefore not merely to reduce British relative costs and prices but to do so while at the same time restoring the appropriate relationship between "sheltered" and "unsheltered" wages. Now if prices in other countries had risen after 1925 it would have been possible to adjust the wage structure to world needs and to adjust "sheltered" and "unsheltered" wages without reducing even the former. But the chart of prices which accompanies this Introduction shows that wholesale prices (the course of which broadly indicates the course of world prices) fell steadily from 1924–1929, the last year of the period.

To adjust British costs and prices to immediate world needs, to adjust "sheltered" and "unsheltered" wages, and to adjust all to a falling world price level was obviously an impossible task. The industrial unrest of 1926 served as an illustration of the difficulties of the situation. Our failure to perform the task imposed by the currency policy of the Government is shown by the failure of British exports to keep pace with the world improvement in industry and trade. The depression of the depressed areas, which was partly due to the world industrial changes already indicated, was also partly due to the over-valuation of sterling. Nor should it be forgotten that the charts of unemployment in the depressed industries do not reveal the full extent of the depression. These charts (given on page 19) indicate the percentage of insured people who are unemployed; but the total number of insured people itself diminished, partly through the fact that the number of deaths and of departures of people in search of employment in other industries exceeded the number of new entrants. Even in 1929, the most prosperous year in post-war history, the number of unemployed exceeded the number of unemployed in years of extreme depression before the war. It was clear even at that time that in the absence of a rise in world costs and prices relatively to British costs and prices, the gold standard could not permanently be maintained. The immediate causes of the actual suspension of the standard in 1931 were of a different character, but the supreme persistent difficulty confronting the nation in the sphere of currency was the over-valuation of the pound.

1930–1935

In the autumn of 1929 a financial crisis in New York heralded another world depression in industry and trade. As the depression, in so far as it affects Great Britain, is the subject of the chapters that follow, it will be sufficient to submit a few comments that do not find a place elsewhere in this volume. In the first place, the depression was not unexpected. It is well known that before the war industrial fluctuations were so regular that they were termed trade cycles. It is also well known that cyclical movements occurred in some cases during upward trends in prices and in other cases during downward trends. Thus, for example, between 1872 and the end of the nineteenth century three complete trade cycles occurred on a downward trend and from 1898 to the outbreak of the war cyclical movements occurred on an upward trend. It is also well known that during a downward trend in prices the period of cyclical depression is longer and the period of recovery and good trade shorter than on an upward trend.

Even the disturbances created by the war failed to destroy the cyclical movements of industry and trade throughout the world. The post-war boom was followed by a depression which, in turn, was followed by a period of recovery ending in 1929, when a new depression set in. Moreover, the cyclical movements of post-war industry occurred, after 1920, on a downward trend in prices. The conditions prevailing in 1929 were precisely those which might be expected to precede a financial collapse and an industrial depression. Moreover, as it occurred on a downward trend in prices, the depression might have been expected to continue longer and the recovery to be more difficult than if it had occurred on an upward trend. But, after making full allowance for these features, the recovery has been slower than most people expected. Why it should be so is a question that could not be examined without a long technical discussion and without raising controversial issues which I have endeavoured to avoid.

But it may be suggested that the years 1933, 1934 resemble in many respects the years 1923, 1924, and it is not unlikely that future historians may see in 1934 the first year of a fourth period

in post-war history. The year 1934, like 1924, was a year of comparative currency stability, as well as a year in which the forces making for industrial recovery lost some of their impetus. It was a year in which the disadvantages of currency manipulation had become evident and in which people were again beginning to see not merely the need, but also the early practicability of a return to some international currency standard. Like 1924 it was also a year in which the partial recovery in industry and trade had been confined very largely to domestic trade; in which greater freedom of trade between nations was regarded as an urgent need, and in which such freedom was associated with the restoration of the gold standard.

But there are three important points of difference between the two years. In the first place, the world depression, along with the currency difficulties that it produced, has resulted in a large increase in the restrictions imposed upon international trade. Under the protection of such restrictions competing industries have been fostered in the importing countries, with the result that the problem of increasing international trade is likely to prove even more difficult than was the case ten years ago. While trumpets are being blown, the walls of Jericho are rising higher and higher.

The second difference is in the attitude of the Government towards the gold standard. In 1924–25 the Government assumed not only that the gold standard should be restored as quickly as possible, but also that any value to sterling other than the pre-war value was unthinkable. It was felt that the prestige of this country depended not only upon a return to the gold standard but also a return to the pre-war gold value of the pound. Our former respect for old parities has now disappeared. The Government is now apparently only prepared to return to the gold standard at the appropriate time and under the appropriate conditions.

It does not follow, however, that if and when we return to gold, sterling will not again be overvalued. It is still possible that the normal value of sterling will be determined by the cost and price levels in the exporting industries, and these are a function of the wage level in those industries. During the depression the

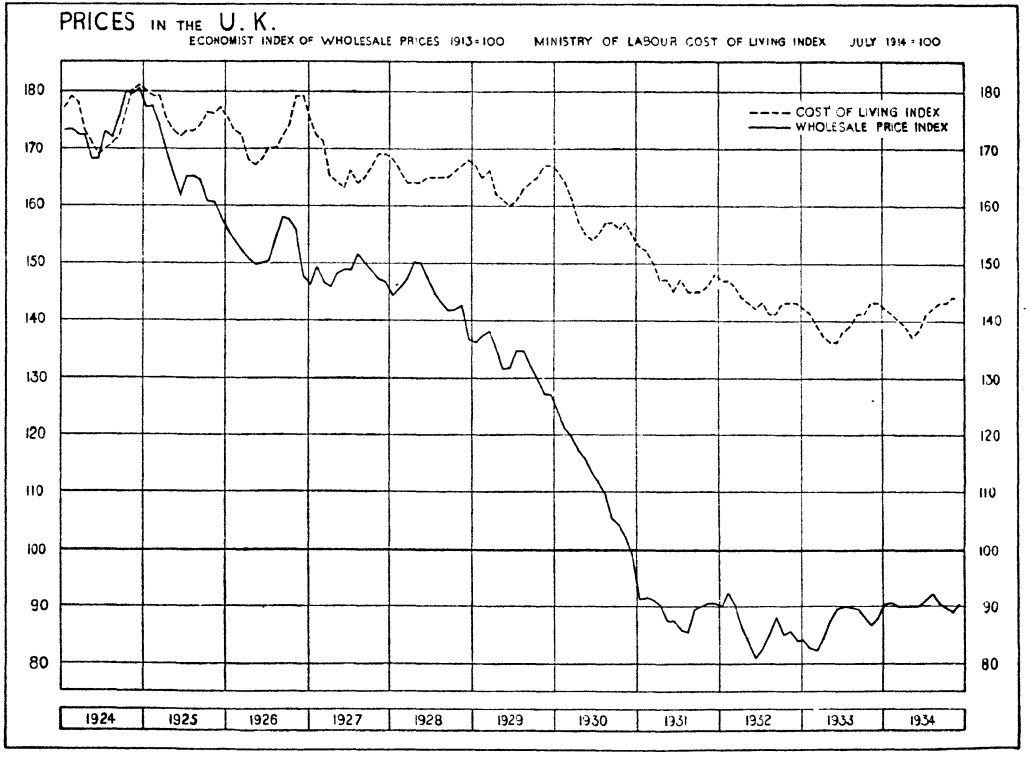
disparity between "sheltered" and "unsheltered" wages was materially reduced, but during the last few weeks it has again been increased. If we give sterling a gold value determined by the conditions now existing in the "unsheltered" industries, we shall continue to suffer from an unbalanced wage structure and possibly be faced with a period of serious industrial unrest representing an attempt on the part of people employed in the "unsheltered" industries to restore the appropriate relationship between their wages and those paid in public services and other "sheltered" occupations.

The third great difference between 1934 and 1924 lay in the attitude of the nation towards the depressed industries and depressed areas. Eleven years ago it was thought that the restoration of world industry and trade would be accompanied by the complete recovery of our export industries. It is now recognized, however, that even on the most optimistic assumption, the export industries cannot hope to regain their former trade. In view of the growth of protection during the depression, including protection in this country, it is extremely unlikely that even the position gained in 1929 will be recovered. Already the depression in the south of England has almost passed away, but the large exporting industries are still suffering not only from the persistent depression of 1929 but also from a depression which is partly cyclical but largely of a kind that may continue for some years to come. A low rate of interest may foster the development of industries with a future; it can do little beyond providing financial relief for those industries that are already overgrown and need to be reduced. It may foster house construction, an industry which has been largely responsible for recent improvements in trade, but there is little to be gained in building houses without providing industries; to do so is like building castles in the air. The obvious immediate task with which the nation is faced is to repair the foundations of economic prosperity.

J. HARRY JONES

UNIVERSITY OF LEEDS

July, 1935


PRICES IN THE U. K.
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MINISTRY OF LABOUR COST OF LIVING INDEX JULY 1914 = 100
COST OF LIVING INDEX
WHOLESALE PRICE INDEX
180
170
160
150
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1924
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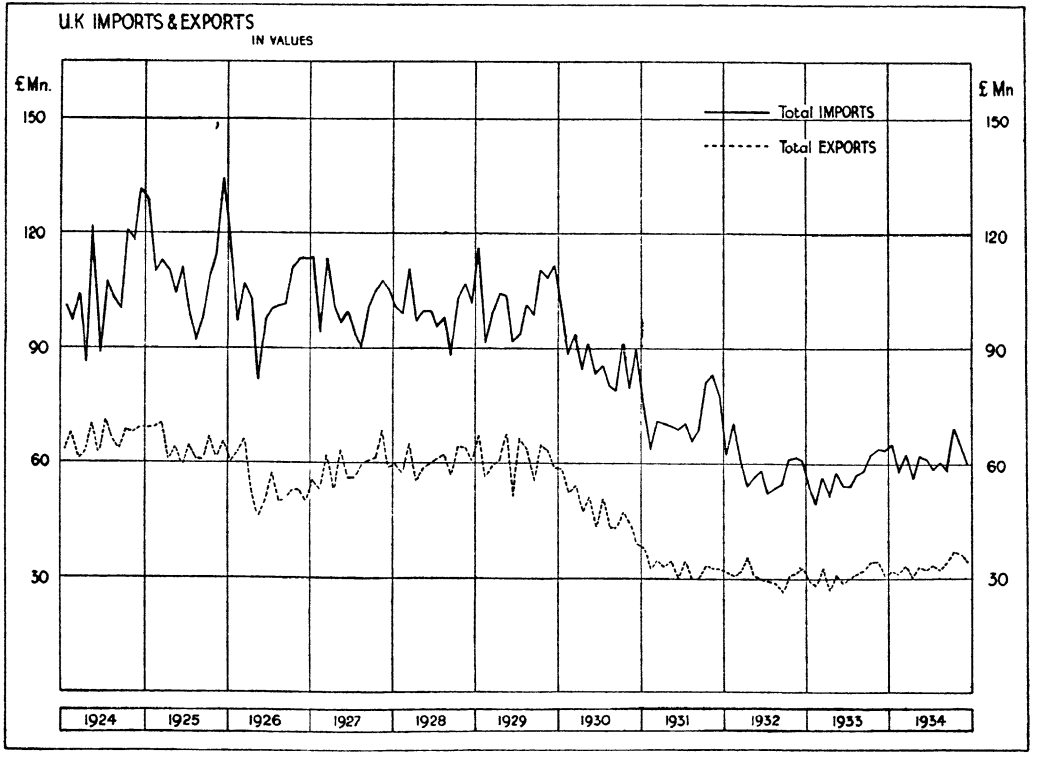
U.K IMPORTS & EXPORTS
IN VALUES
£Mn.
£Mn
150
120
90
60
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Total IMPORTS
Total EXPORTS
1924
1925
1926
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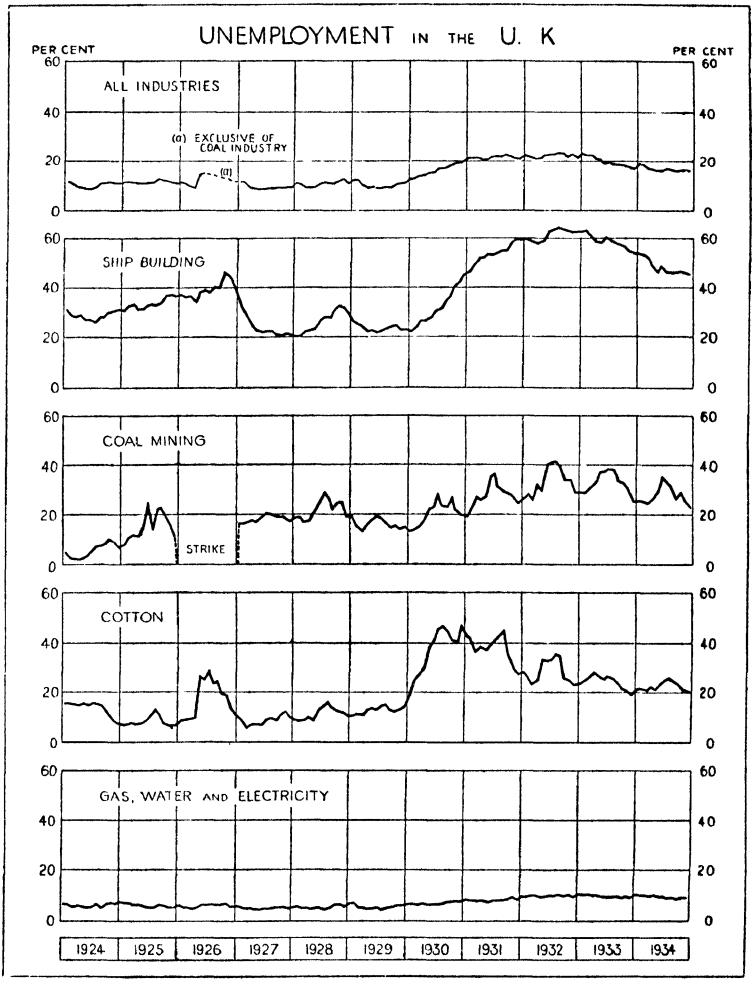
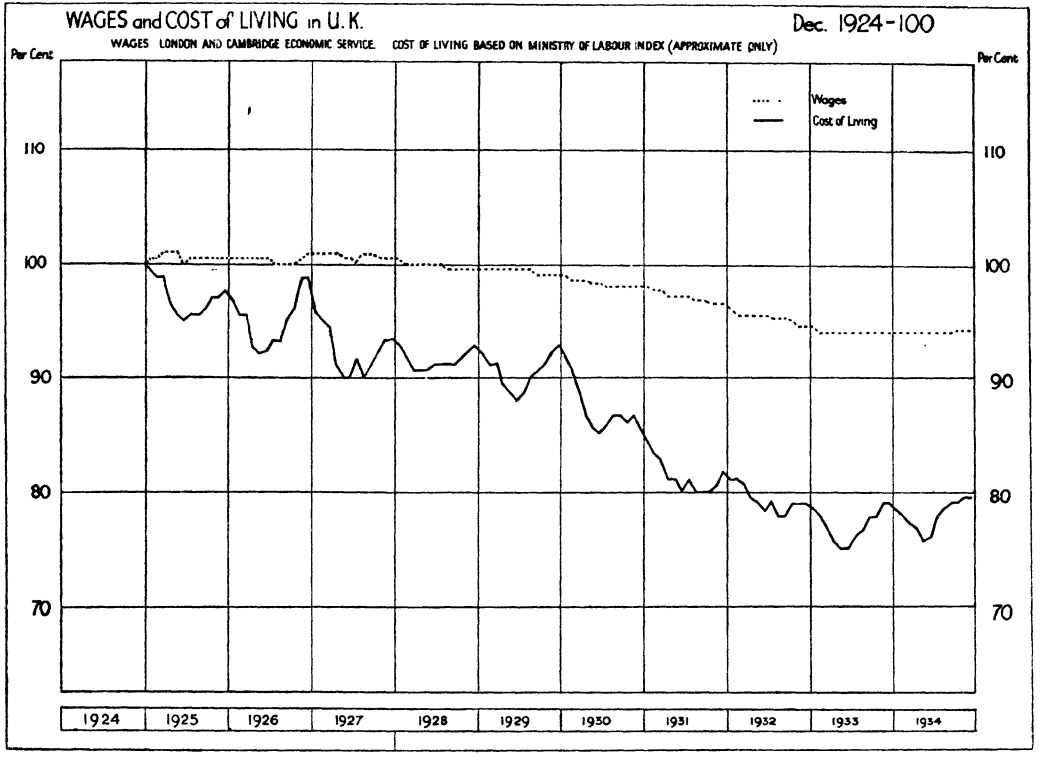
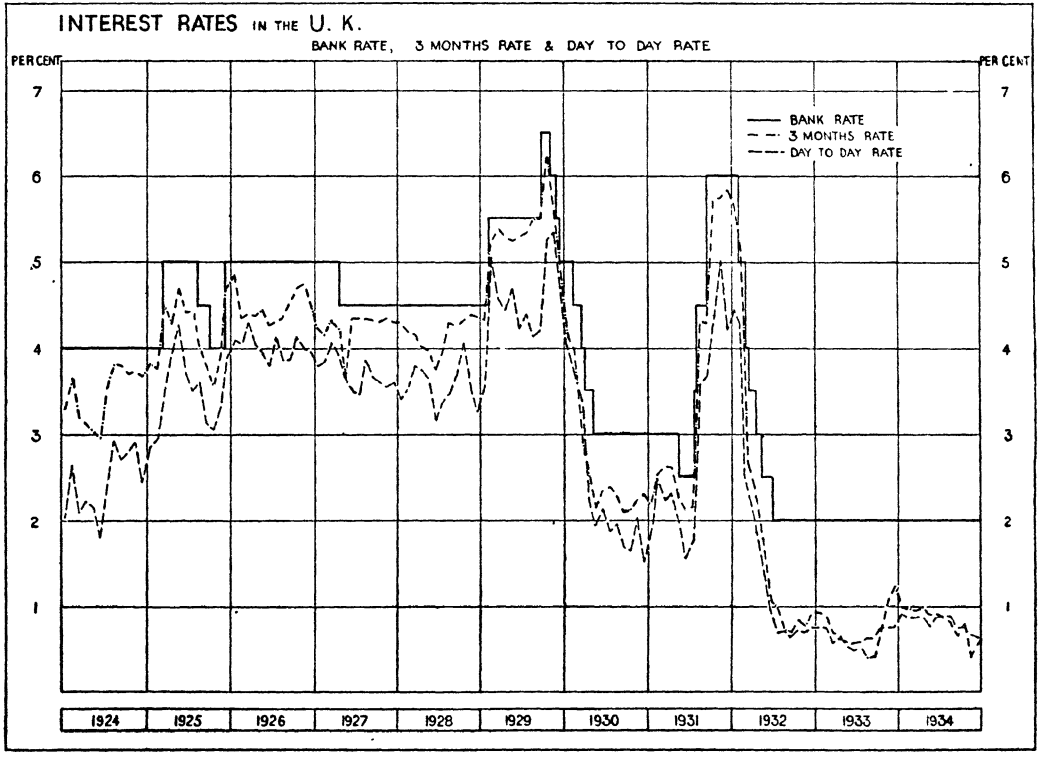
1933
1934


UNEMPLOYMENT IN THE U. K
PER CENT
PER CENT
ALL INDUSTRIES
(a) EXCLUSIVE OF COAL INDUSTRY
(a)
SHIP BUILDING
COAL MINING
STRIKE
COTTON
GAS, WATER AND ELECTRICITY
60
40
20
0
1924
1925
1926
1927
1928
1929
1930
1931
1932
1933
1934


WAGES and COST of LIVING in U.K.
Dec. 1924-100
WAGES LONDON AND CAMBRIDGE ECONOMIC SERVICE. COST OF LIVING BASED ON MINISTRY OF LABOUR INDEX (APPROXIMATE ONLY)
Per Cent
Per Cent
Wages
Cost of Living
110
100
90
80
70
1924
1925
1926
1927
1928
1929
1930
1931
1932
1933
1934


INTEREST RATES IN THE U. K.
BANK RATE, 3 MONTHS RATE & DAY TO DAY RATE
PER CENT
PER CENT
7
6
5
4
3
2
1
BANK RATE
3 MONTHS RATE
DAY TO DAY RATE
1924
1925
1926
1927
1928
1929
1930
1931
1932
1933
1934

CURRENCY AND BANKING

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CURRENCY AND BANKING

The Situation in 1928 and 1929

1. In 1928 and the early part of 1929, the London Money Market was showing every sympton of boom. Deposits were 5 or 6 per cent higher than in 1924, and very nearly up to the peak level of 1920. The ratio of advances to deposits, 54 to 55 per cent, seven points higher than in 1924, was at the maximum which the bankers, in their evidence before the Macmillan Committee, had thought probable. Bank Rate was $4\frac{1}{2}$ per cent, and the market rate of discount less than $\frac{1}{2}$ per cent below, at 4·16 per cent.

The capital market was equally active. Security prices were almost 50 per cent higher than in 1924. New capital issues reached £369,000,000 in 1928, a figure which, if Government borrowing is excluded, was exceeded only by the issues for 1920. Half of this sum (again excluding Government borrowing), and practically the whole of the excess over the figure for 1924, was raised for home industry.

In international affairs the year 1928 saw the practical, and apparently successful, completion of the work of restoring an international gold standard. The Currency and Bank Notes Act of 1928 amalgamated the Treasury note issue with the Bank note issue and gave back to the Bank of England the appearance as well as the reality of control over the London Money Market; and the franc, the lira and the currencies of a number of smaller countries were stabilized on gold at last.

In 1929 this newly established system was subjected to the strain of the Wall Street boom and collapse of the summer and autumn, and survived this strain at no greater cost than a $6\frac{1}{2}$ per cent Bank Rate in London, reinforced by correspondingly high rates in the continental centres. At first it seemed as if the post-war gold standard had withstood these shocks successfully. It was not till later that the makings of the crisis of 1931 appeared.

2. In London the capital market continued to be active throughout 1928 and the early part of 1929. The volume of new

issues was maintained during the second quarter of 1929, and security prices did not begin to fall appreciably till the fourth quarter. The recession of activity in the capital market was accompanied by the collapse of the Hatry and Photomaton groups of companies, a collapse which began in September, 1929.

The advances and deposits of clearing banks remained at a high level throughout 1928 and 1929. Advances continued to rise till the first quarter of 1930, and did not fall to the level of 1928 till the second half of that year. Deposits did not fall till the last quarter of 1931.

This failure of advances to respond rapidly to the slump in the capital market was regarded with some concern at the time as evidence of loans frozen in a depressed industry. In the absence of first hand information there seems little ground for this assumption. The level of advances depends upon trade, not upon the capital market; and according to the *Economist* index of business activity, the general recession in trade and industry did not begin till the middle of the first quarter of 1930.

3. The exchanges during the two years were dominated by Wall Street. New York ceased for the time to be a provider of funds to Europe and became instead an absorber. The stream of American money to Europe dried up, and European money was now going to New York. By June of 1928, £50,000,000 of European money was said to be invested in New York, but chiefly to brokers. Boom on Wall Street and the flow of money from Europe to New York threw upon London the burden of satisfying the German and the French demand for money. All these factors showed themselves in the history of the exchanges. For the first half of 1928 the exchanges were very favourable to sterling, and the Bank was gaining gold. In the second half of the year the position was reversed. The exchanges on Berlin and New York turned against sterling, and the Bank lost gold to both centres. High money rates in New York caused Berlin to borrow in London and Paris; and Paris, in turn, was withdrawing funds from London to lend them in Berlin.

The year was remarkable on account of an attempt made by the Bank to substitute operations in the open market for Bank

Rate as an instrument of control. Bank Rate remained throughout the year at 4½ per cent, despite a gain, and then a loss, of more than £20,000,000 of gold. Instead of using changes in Bank Rate to prevent the flow of gold the Bank relied upon purchases and sales of bills and securities to balance the gains and losses of gold. Against a gain of £24,000,000 in gold in the first eight months of the year the Bank sold £31,000,000 of securities. Against a loss of £22,000,000 in the last four months the Bank bought £16,000,000 of securities.

New York and Berlin continued to gain gold at the expense of the Bank in 1929, the Bank losing £23,000,000 of gold in the first nine months. The New York exchange was consistently low, being at or below the gold export point throughout June, August and September. The gold drain was resumed after the New Year in late January, 1929; and the Bank gave up the attempt to control the exchanges without resort to changed Bank Rate. Bank Rate was raised from 4½ per cent to 5½ per cent on Thursday, 7th February. In August, however, when the Federal Reserve Rate was raised from 5 to 6 per cent, the Bank let it be known that no immediate increase in its own rate was contemplated. But by Thursday, 12th September the pressure of events in Wall Street forced another rise in Bank Rate, this time to 6½ per cent.

The Wall Street boom collapsed in October, and the gold drain to New York ceased abruptly. Sterling rose from 4·85 to 4·88, and gold began to return. The exchange on New York remained favourable to sterling throughout the last quarter of the year, and the Bank regained £16,000,000 of the gold it had lost.

The drain to New York ceased in October, and German demands had been satisfied by July. But in July another drain began, the drain to Paris. The French exchange fell below 124 francs in June, 1929, and scarcely ever rose above that figure again.

4. The weakness of the franc exchange and the drain of gold to Paris which was so persistent a feature of the exchange history of 1928 to 1931 had two main causes. The one was the inelasticity of the Paris Money Market, the other the habit of French financial institutions of holding short balances in the

London Money Market. This was not a new practice. It was well known before the War. But since the War both these causes have been aggravated. The post-war Paris bill market was in a very undeveloped state, and very few bills were being drawn on Paris. French commercial banks are in any case unwilling to take bills to the Banque de France for rediscount, partly because the Banque is their largest competitor in commercial business, partly because the Banque must charge only one rate for rediscount and cannot therefore quote a competitive price for fine bank bills.

The Banque de France itself is not allowed to buy and sell bills in the open market and may not purchase foreign exchange from the commercial banks. It followed, therefore, that, when the commercial banks wanted to increase their cash, the easiest and the cheapest way to do so was to withdraw their sterling balances in gold and take the gold to the Banque for exchange into francs.

French balances in London had become unusually large, swollen by funds which had taken refuge there during the period of instability. After stabilization these funds were steadily repatriated, a natural result of increasing confidence in the franc and of a desire to make up cash balances which had become unusually small during the years of inflation. Besides this normal movement of funds back to France any special strain to which the Paris Money Market was subjected caused an immediate withdrawal of balances on a large scale from London by French houses anxious to increase their cash. Special strains there were in plenty throughout the period 1928–1931. Heavy tax collections, the result of balanced budgets, took cash off the market, since the French Treasury holds its resources, not in earning assets, but in notes and gold. The French branches of the international loans floated during these years caused another immobilization of funds. The difficulties of the Oustric and Adam banks shook the faith of the French depositor, and led to further demands for cash. Each and every event of this nature added to the persistent withdrawal of French money from London, of gold being exported to supply the French banks with cash. The Paris Money Market was using its sterling balances as the English commercial banks use their money at call, as a second line of defence. In the absence of any well-organized international

bank able to rediscount in francs the sterling assets sold by the French, the results of such a situation could not but be disastrous to London.

This repatriation of French balances first became important in 1929. It was balanced during the first half of the year by the exchange purchases of the French Government in preparation for the repayment of the commercial debt to the U.S.A. in August. The agreement of July removed this counterweight, and for the last half of the year the franc exchange remained at or near the gold export point.

5. After the Wall Street collapse in October the need for high rates of interest in Europe disappeared. Bank Rate was reduced from 6½ to 6 per cent on 30th October, though only £2,500,000 of gold had returned to the Bank. It was reduced again to 5 per cent on 12th December when reforms of the Paris Money Market and the depreciation of the dollar to $4.88 allowed the franc to rise temporarily above the gold export point.

6. The market rate of discount fell more rapidly than Bank Rate. During the first nine months of the year the average margin between Bank Rate and the market rate was less than ⅓th per cent. In the last quarter of the year the gap widened to ½ per cent.

Less happy features, from the point of view of the international gold standard, marked the end of the year. Canada and the Argentine placed restrictions on the export of gold; and there was a threat of defection from Australia.

7. In 1930 the slump began generally. The *Economist's* index of business activity, which had remained fairly constantly at the boom level of 110–112 (1924 = 100) throughout the autumn of 1929, fell by a full ten points from 112 to 102 during 1930. The Board of Trade price index (general), which had fallen by less than 2 per cent in 1928 and only 4 per cent in 1929, fell by 17 per cent during 1930.

The rapidity of the fall in short money rates was remarkable. Bank Rate was reduced four times in the first quarter of the year, on 6th February, 6th March, 20th March and 1st May, bringing the rate down from 5 to 3 per cent. The market rate of discount fell from just over 4 per cent in January to under 2½

per cent in December. The margin between Bank Rate and the market rate widened to over ¾ per cent in 1930.

Bank advances were maintained close to the high levels of 1928 and 1929 till the turn of the first quarter of 1930. From a peak of £976,000,000 in March they fell to £915,000,000 in December, a reduction of nearly 7 per cent. The proportion of advances to deposits, which had been 58 per cent in March, fell to 49·7 per cent at the end of the year. Bank cash which could find no employment in advances to industry was invested by the banks in bills to a remarkable extent, as well as in the more normal channel of securities. While advances were declining by £60,000,000 investments rose by £45,000,000 and bills by £140,000,000. As a result, deposits after dropping to a low figure of £1,682,000,000 in March, rose to £1,839,000,000 in December, a figure higher than the maximum for 1928 and 1929 (£1,809,000,000 in January, 1929).

The circumstances of the time make this rise in the bill holdings of bankers all the more remarkable. Commercial bills were becoming increasingly scarce owing to a steady diminishing international trade, and a net reduction of £191,000,000 in the supply of Treasury bills in the first quarter of the year. Fortunately for the banks Government borrowing in the later part of the year increased the volume of Treasury bills available.

The new issue market did fairly well throughout the year, although, as the *Economist* remarked in May and again in June, much stock was being left on the underwriters' hands. A total of £267,000,000 was raised, as against £285,000,000 in 1929, and £369,000,000 in 1928. If Government borrowing is excluded, the figures are £202,000,000, £220,000,000, and £285,000,000 respectively. A different picture is given if the amounts raised for home industry alone are compared. The amount raised in 1930 was only £58·8 million, against sums of £122 million and £141·2 million raised in the preceding two years.

The prices of industrial securities continued the fall which began in September, 1929. Between September and December, 1929, the London and Cambridge index showed a loss of 23 points, from 144 to 121. Between January and December, 1930, the index lost 25 points, falling from 124 to 99. (1924 = 100).

The price of fixed interest securities, after falling from 101 to 94 during 1929, rose to 104 by the end of 1930.

Interesting developments in the relations between banks and industry took place during the year. By the end of 1929 the Bank of England had become interested in certain rationalization schemes, the Armstrong-Vickers merger, Beardmore's reconstruction, the foundation of the Lancashire Cotton Corporation; and it had registered a subsidiary, the Securities Management Trust (November, 1929).

In April, 1930, another concern was registered, the Bankers Industrial Development Company with a capital of £6,000,000, one-quarter paid up. The shares were held jointly by the Securities Management Trust, which retained half the voting rights, and practically every other banking institution in Great Britain. The business of this new institution was not to lend the money required to finance reorganization but to assist and advise in the production of schemes which would command the support of the City.

In May, 1930, the Bank for International Settlements opened for business with resources of £60,000,000.

8. THE EXCHANGES. During the first four months of 1930 Berlin replaced Paris as the drawer of gold from London. The pressure from Paris was relieved, the franc going nearly to par. The main reason was heavy French lending in Berlin, French balances being transferred from London to Berlin. Towards the end of March rates of interest on the Continental Money Markets had fallen to such low figures that the Bank was able to obtain the Cape gold at its statutory buying price. Purchases of the Cape gold and arrivals of sovereigns from Australia and South Africa during these two months enabled the Bank to raise its Proportion to 50 per cent and 60 per cent.

But in May, the French drain began again, £11,500,000 in gold being taken for Paris in the first three weeks of the month. The immediate cause was the accumulation of nearly 8 milliards of francs in Paris in preparation for the B.I.S. issue. The exchange on Paris dropped to the gold export point, where it remained for the rest of the year.

At the same time exports of gold to Germany continued. In

the early part of June Germany was taking gold from the Bank as well as the fresh gold from the Cape.

On 14th June, the Bank announced that from henceforth it would sell only standard gold. Standard gold is all that the Bank is legally bound to sell, but up to this time it had been delivering fine gold as an act of grace. As the Banque de France would accept only fine gold the first result of this action of the Bank was to place a premium on fine gold and force down the gold export point on Paris. The market price of fine gold from the Cape rose to 85/0⅜, at which price it was taken by Paris (the Bank's statutory selling price is 84/11½), and the gold export point fell from 123·89 to fr. 123·65. A second result of this change was to limit the withdrawals of gold from London to Paris to £300,000 a day, the limit to the capacity of the refiners.

It was argued at the time that the Bank's action was not prompted by a desire to put obstacles in the way of the export of gold, the reason for refusing to sell standard gold being no deeper than that the Bank's supplies of fine gold were running short. No doubt this was the real reason. The Bank's gold stocks were large, £157,000,000, and the Proportion high, 53 per cent. Nevertheless, the result was to ease the pressure on London throughout the summer. Paris continued to take the Cape gold, almost each week's supply being sold forward to Paris, but drew on New York for the rest of her needs during July and August.

This temporary respite came to an abrupt end in the autumn. The German elections in September, at which the Nazis made considerable gains, caused withdrawals of money from Berlin to Holland, France and Switzerland. The Reichsbank met these demands at first by the sale of its sterling assets, as well as by shipping gold. The franc, both French and Swiss, and the guilder appreciated, the French franc to such an extent that Paris was able to take standard gold from the Bank at the end of September.

These panic withdrawals from Germany ceased before the end of October, but during November another began. The Oustric and the Banque Adam *affaires* of October shook the confidence of the French in their banking system. Deposits

began to be withdrawn in France, and there was some hoarding of notes. The French banks, hard pressed by their customers, drew on their London balances for the cash they required. From the middle of November onwards gold left the Bank for Paris steadily at the rate of £300,000 a day, £13,000,000 being withdrawn before the end of the year. The supply of newly mined gold which went to Paris during this time made up an addition at £3,500,000. Fortunately the Bank was able to balance these losses by gains of sovereigns from Australia, South Africa and South America. London was performing its traditional business of being the clearing house between the gold losing and the gold gaining centres, so successfully that the Bank actually gained £2,000,000 of gold on balance during the year.

The year closed with no relief in sight. The refiners were engaged throughout December and till the end of January, each week's arrivals of Cape gold having been sold forward to Paris at prices well above the Bank's statutory selling price, and there was the beginning, happily only temporarily, of a gold efflux to Germany, said to be due to the discounting of German bills drawn against London credits.

9. On 2nd January, 1931 the French Bank rate was reduced to 2 per cent. Later on in the month representatives of the British and French Treasuries conferred together in order to concert measures to prevent the flow of gold to Paris. The statement issued in February was a colourless document. The French declined to admit that the immobilization of Treasury balances in Paris had anything to do with the matter, although they agreed to continue "to take into account in this respect . . . the repercussions which the operations of the public accounts might have on the monetary market." The two Treasuries attached cardinal importance to the resumption of foreign lending by creditor countries and agreed "that it was desirable to take any practicable steps to promote effective co-operation between loan markets."

On 16th January, the Banque de France began to accept standard gold.

The immediate effects of this step were to remove the limit of £300,000 a day to the withdrawals of gold from the Bank of

England, to abolish the premium on fine gold and to raise the gold export point on Paris to the normal figure of fr. 123·89. £7,000,000 of gold was withdrawn for Paris in the last two weeks of January, half of it in the four days following 16th January. The price of gold fell from over 85s. to 84s. 11½d., and the franc exchange rose from under 123·66, the level at which it stood at the beginning of the month, to just under 123·90 at the end.

At the end of January the Bank of England entered the market and sold bills in order to force up the market rate of discount and turn the exchanges in favour of sterling. The rate ultimately established by the Bank was $2\frac{9}{16}$ per cent, as against the rate previously ruling of $2\frac{5}{16}$ per cent. This rate was maintained throughout the quarter.

The Bank's action was eminently successful. A margin of 1–1¼ per cent was established between the London rate of discount and the rates current in Paris and New York. Continental and American funds were attracted to London; the franc and the dollar exchanges rose above the gold export points; in March, the Bank was able to secure part of the newly mined gold from South Africa at prices only a ¼d. and ⅛d. over its statutory buying price; by 4th April, the price of gold fell to the Bank's statutory buying price of 84s. 10d. and in the last half of April and in May the franc and the dollar exchanges rose to par. When the Federal Reserve Rate was reduced to 1½ per cent on 7th May the Bank released its control over the market and reduced its own rate to 2½ per cent on Thursday, 14th May. The market rate of discount was kept from falling below 2 per cent by the decision of the clearing banks to keep their charge for money lent for the week at 2 per cent.

10. But by the beginning of June, just as the Bank, by attracting foreign short balances to London, had succeeded in raising the exchanges to par and stopping the gold drain, the crisis proper had begun.

The course of events was as follows. An important Austrian banking house, the Kredit-Anstalt, an institution which, by a series of absorptions of other hard pressed Austrian houses, had come to embrace three-quarters of the Austrian banking and

financial business and to own the greater part of Austrian industry, revealed its difficulties during the week ending 14th May. On 27th May a committee was set up in London to deal with City interests in its affairs. The next day the Austrian Government guaranteed the liabilities of the Kredit-Anstalt, and on 1st June an international committee was set up, and ten central banks, including the Bank of England, the Federal Reserve Board and the Banque de France, had agreed to support the Anstalt.

The crisis spread almost immediately to Germany. Throughout June funds were being transferred from Berlin to Switzerland. The mark depreciated in terms of sterling; and the Swiss franc appreciated till it became profitable to ship gold from Berlin to London and from London to Switzerland. Nearly £10,000,000 of gold was shipped from Berlin to the Bank, and the Bank had to bid up the price of newly mined gold to a figure well above its statutory buying price against Swiss competition.

On Saturday, 20th June, President Hoover announced his proposal for a general moratorium of one year in respect of all intergovernmental indebtedness. It was accepted on Monday by the British Government and by the Italian on Wednesday. The French stipulated that the unconditional part of the annuities should be paid into the B.I.S., to be re-lent to industry in Germany and Central Europe. This amendment was rejected by President Hoover on 2nd July, and agreement was not finally reached till 6th July, by which time the crisis had been allowed to go too far.

On 27th June it was announced that the Kredit-Anstalt was to be liquidated and that the Austrian Government would guarantee all its schilling deposits. On 6th July a rediscount credit of $100,000,000 was granted to the Reichsbank by the central banks of Great Britain, France and the U.S.A. On 13th July the Darmstadter und Nationalbank, which had been badly hit by the failure of the Norddeutsche Wollkammerei, closed its doors after an application for help the previous day had been refused. On the same day, the German Government guaranteed its deposits; and the B.I.S. was authorized to prolong the rediscount credit granted to the Reichsbank, although a further credit

was refused. On 14th July a two day bank holiday was declared in Germany and Hungary, the mark dropped temporarily to 30 to the pound sterling and the European money markets generally were closed.

The run on London began immediately the Paris bourse reopened on Wednesday, 15th July. A partial moratorium had been declared in Germany, and exchange restrictions were imposed in that country and in Hungary, Austria, Roumania, Jugo-Slavia, etc. Repatriation of foreign balances by continental institutions anxious to ensure their liquidity in the face of this freezing up of assets in Central Europe led to heavy sales of sterling. The exchanges on Paris and New York went well below the gold export points after having been as low as 122 and 4·84 respectively. The same day it was decided that no German bills dated after 11th July should be accepted in London. The gold drain began at once. £5,500,000 was withdrawn for continental centres the same week, £15,500,000 the next week and £20,000,000 the week after. The Bank had to buy bills to ease the internal situation.

The market rate of discount, which had fallen to $1\frac{7}{8}$ per cent at the beginning of July, rose to 2 per cent on 10th July and $2\frac{3}{8}$ per cent on 15th July, just $\frac{1}{8}$ per cent below Bank Rate. It remained at this level till 23rd July.

Bank Rate was raised to 3 per cent on 23rd July and to 4 per cent on 30th July. On 1st August the Bank announced an increase in the fiduciary issue of £15,000,000 and the opening of credits, equivalent to £50,000,000, in Paris and New York. On the 6th August Bank Rate was raised again to $4\frac{1}{2}$ per cent.

These measures enabled the Bank to support the exchange, but they did not stop the outflow of foreign balances. £200,000,000 is estimated to have been withdrawn from London during July, August and September, to which the May Report with its highly coloured account of the national finances published on 31st July no doubt was a contributory factor. The franc and the dollar were maintained within the gold export point throughout August, rising somewhat above the pegged rate during the last week. It is significant that the Dutch and the Swiss exchanges, which were not supported, remained consistently below the gold

export points. Withdrawals of gold from the Bank were balanced by arrivals of sovereigns from Australia, and by the release of sovereigns from ear-mark. It was said that foreign interests were using this method of meeting the outflow of gold from London. As a result the Bank finished the month with its gold stocks unimpaired, enjoying a net gain of £1·8 million, which brought the reserve up to £135·3 million.

But by the end of August, the credits opened by the Bank were exhausted. On the 28th August the Treasury announced that it had obtained undertakings from financial groups in New York and in Paris to take up, if necessary, British Government bills drawn in dollars and francs to the amounts of $200,000,000 and fr. 5,000,000,000, the credits to remain open for one year. These credits enabled the dollar and the franc exchanges to be kept inside the gold points during the first fortnight of September, although, as before, the Dutch and Swiss exchanges remained below. The Bank was able to obtain part of the Cape gold, at prices up to 84s. 11⅝d. an ounce, right up to 15th September.

The last stage began on Tuesday, 15th September. On that day the Dutch, who had been competing for the Cape gold intermittently throughout August and September, began to take gold from the Bank. £215,000 was withdrawn that day for Holland, and amounts of £343,000, £507,000 and £1,781,000 in the next three days. At the same time the daily drain on the Treasury credits to support the Paris and New York exchanges continued, £5,000,000, £10,000,000, and £18,000,000 being required on the Wednesday, Thursday and Friday.

That day, Friday, 18th September, the British Treasury's applications for further credits in New York and Paris were unsuccessful, and the decision was taken to suspend the gold standard the next day should events prove unfavourable. On the following day, Saturday, 17th September, Holland withdrew £907,000 from the Bank, and another £10,000,000 was taken out of the Treasury credit by Paris and New York. The credits were by now practically exhausted, the gold reserve was down to £134·7 million, or just enough the cover the foreign indebtedness of the Bank and the Treasury. Heavy demands for exchange

on Paris and New York continued, and the Bank was being subjected to a drain of gold. On Sunday, 20th September, the Government issued a long statement relieving the Bank from the obligation to sell gold; and on Monday, at the opening of business Bank Rate was raised to 6 per cent. The same day a bill was introduced into Parliament and passed into Law indemnifying the Bank for breaking the Gold Standard Act of 1925.

11. Great Britain was followed off the gold standard by the Dominions except South Africa, by India, and by Denmark. Rhodesia adopted a sterling standard on 12th October, and on 19th October Canada prohibited the export of gold except under licence. This was, in fact, merely recognizing an existing situation, It had been impossible for some months past to obtain gold in Canada for export. In November the Scandinavian exchanges went to parity with sterling, and in December Japan abandoned the gold standard after being on it for scarcely a year.

There was, at the same time, a general abandonment of the gold exchange standard and a rush by continental central banks to convert their remaining devisen into gold. The assets sold were chiefly dollar securities, and the burden of supplying the gold fell mainly on New York. Before the end of the year $500,000,000 in gold was withdrawn from New York and Europe. The central banks of France, Belgium, Switzerland and Holland disposed of more than $250,000,000 devisen and increased their holdings of gold by $886,000,000. The excess of their gains of gold over the losses of New York is made up by the losses of other central banks, by newly mined gold, and by the disposal of Indian hoards attracted by the high sterling price of gold.

12. The sterling prices of raw materials rose temporarily above world parity, but by Wednesday, 23rd September, equilibrium had been re-established. The general level of prices had risen by 8 per cent by the end of the month compared with 18th September, a level retained for the rest of the year. Gold prices fell by 5 per cent. As sterling had depreciated by 18 per cent this meant that sterling prices had risen by only half as much as sterling had depreciated. This result was to be expected, for only about one-half of the commodities in the index were likely to be affected immediately by the departure from gold.

13. The London Money Market was little disturbed. The Stock Exchange was closed on the Monday and the Tuesday, opening for business without restrictions on Wednesday. Later, however, on the following Saturday (26th September), business was permitted for cash only. The prices of British Government securities were 4 per cent lower at the opening of business on Wednesday than they had been on the previous Saturday. Prices rose rapidly, without official support, although the high rates of interest ruling prevented complete recovery. There was an immediate rise in the prices of industrial shares. Prices rose 20 per cent in the first week and another 20 per cent by the end of October, the peak of the "boom." During November and December they lost nearly all they had gained.

14. The closing quotations on 18th September had been: New York, 4·85$\frac{1}{16}$, Paris 123·97, Zurich 24·86 and Amsterdam 12·03 (gold export point 12·055). On Tuesday, 22nd September the Treasury prohibited exchange dealings except for normal trading requirements for contracts existing before 21st September and for reasonable travelling expenses. After a brief period of dislocation the exchanges settled down, and by midday on Thursday the following rates were current: New York 3·95, Paris, 100·50, Zurich 21·25 and Amsterdam 7·75. Though entirely unsupported, sterling did not suffer much further depreciation during October, the average rates of exchange over the month on Paris and New York being 98·68 and 3·89 respectively. But during November sterling began to slump and throughout December rates were very low, the average of daily quotations for the franc and the dollar being 85·94 and 3·37.

This firmness during October and the comparative weakness of sterling in December were due to several reasons. In October repatriation of British funds from abroad balanced continued withdrawals of foreign funds. In November and December there was the normal seasonal pressure on the exchange to pay for imports, exaggerated at this time by dealings postponed till after the elections, by the liquidation of sterling balances still held in Amsterdam and, possibly, by some rush of imports to forestall expected customs duties. The Treasury restrictions, confining dealings to those required by commercial transactions,

narrowed the market and made it more liable to temporary adverse influences. At the same time exchange restrictions elsewhere, making payment for British exports uncertain, aggravated the tendencies towards unfavourable exchange. A contributory cause, though it was not one suggested at the time, may have been official purchases of foreign exchanges in anticipation of the credits falling due for repayment by the Bank and the Treasury in the Spring of 1932.

The market in the forward exchanges broke down completely on the abandonment of the gold standard. Dealings were not resumed till about three weeks later and then only on very wide margins, 3 months forward New York being at a discount of 1 per cent and Paris at a premium of 1½ francs.

The year ended with the exchanges at comparatively low levels, sterling being worth $3·40 and 86 francs in the London market.

15. The market rate of discount kept very close to Bank Rate after September 1931, the average rate over the last quarter of the year being 5·77 per cent, less than ¼ per cent below Bank Rate. On 30th October the Bank repaid £20,000,000 of the credits raised in August, the remaining £30,000,000 being extended for a further three months. To do this the Bank had to part with £15,000,000 of its gold holding, bringing the gold reserve down to £120,000,000. This caused some apprehension, for it was feared that the end of the year would not be passed without a further increase of the fiduciary issue. The Christmas and New Year demands for currency were successfully met without resort to such drastic measures, although the Proportion fell to 20·9 per cent.

The crisis left the commercial banks practically unaffected. They suffered owing to the freezing up of credits abroad under the stand-still agreements and, also, owing to the depreciation of their holdings of gilt-edged stocks. But of these sources of loss the first affected chiefly the acceptance houses and the new international banks and hardly touched the clearing banks at all. The second, in which the clearing banks were deeply interested, was largely a paper loss, for their investments in short-dated Government stocks were subsequently redeemed at par, and

their holdings of long-dated securities had recovered all the ground they had lost by March, 1932.

In other ways it was not a profitable year for the banks, and they showed their appreciation of the crisis by modest reductions of their dividends. As in 1930 advances, after a short rise in February, March and April continued their downward trend. Deposits, too, were reduced owing to the contraction of credit forced on the Bank of England by its gold losses and high Bank Rate. The proportion of advances to deposits was rather higher at the end of the year than it had been at the beginning, 52 per cent against 49·5 per cent. Discounts were reduced during the year from the unusually high level reached at the end of 1930 and the beginning of 1931, a reduction sufficiently explained by the scarcity of trade bills and a further net reduction in the volume of Treasury Bills. Investments, the remaining important asset of a bank, were as large at the end of the year as they had been at the beginning, after being reduced considerably during the second quarter. In the autumn the clearing banks are said to have refrained from their weekly calls for making up purposes.

The course of prices on the Stock Exchange since the crisis has already been discussed. Up to September the prices of industrials had fallen by 14 per cent. Fixed interest securities maintained their prices till June, but then depreciated, losing 10 per cent of their value before the year was out. The restrictions on the Stock Exchange imposed in September were removed on 16th November and on 21st December, when dealings for the account were permitted, and option business was allowed.

The slump in the new issue market continued, only £102,000,000 of new capital being raised during the year, £89,000,000 of it in the first half of the year. Of the total for the whole year £10·7 million was raised for the Government, and £35·9 million by home industry. The demands made by home industry on the capital market in the last half of the year were very small, only £7,000,000 of capital being issued.

The Bankers Industrial Development Company was responsible for two issues during the year, one, in January of £1,000,000 for the National Shipbuilders Securities Ltd., the other in March

of £2,000,000 for the Lancashire Cotton Corporation. In January there was the disastrous failure of the Royal Mail Steam Packet Co. The whole of the ordinary capital of the company was lost.

16. Abroad, in Europe and the rest of the world, the crisis continued. In August a committee of experts in Basle examined the whole question of Germany's foreign debt. In November Germany took advantage of the clauses in the Young Plan allowing postponement of the Reparation annuities and made formal application to the B.I.S. A second Basle Committee, almost identical in membership with the first, reviewed the situation in December. Negotiations for a Standstill agreement, providing for the retention in Germany of foreign short balances, were begun on 23rd July. Agreement was reached on 17th September to take effect from 1st September for six months. German standstill bills were dealt in on the London market at rates up to 1 per cent higher than the ruling market rate of discount. Czecho-Slovakia prohibited the withdrawal of Austrian and Hungarian balances in November, and Hungary declared a moratorium in December. Bank failures were frequent in the United States and in Germany throughout the autumn. There were one or two, also, in France and one in Norway. In South America exchange restrictions had been in force in Brazil since November 1930. Chile and the Argentine imposed restrictions in August and November. In August Chile defaulted on her foreign debt, and in October Brazil defaulted on a part of hers. Altogether 49 loans to Governments and municipalities were in default at the end of the year. The Australian exchange which had been maintained at £108·10 to £100 sterling throughout 1930 slumped to £130 to £100 sterling in January and was allowed to depreciate with sterling in September.

17. The year 1932 seems to have been the trough of the depression, at least as far as Great Britain was concerned. The *Economist's* index of business activity was at a uniformly low level. The average for the year was 95·8 (1924 = 100), the minimum monthly index 93·3 in April, the maximum, 98·5, in June and December. Sterling prices maintained the level to which they had risen after the suspension of the gold standard

till March. After that they fell, until in December they were back at practically the level of 18th September, 1931.

The crisis, again as far as Great Britain was concerned, was over by the end of April. An appeal to the patriotism of the direct tax-payer had brought in £140,000,000 of revenue in the first quarter of the year, and the Budget had been balanced. Bank Rate was down to 3 per cent, and was to fall to 2 per cent before the half year was out. The Bank of England and the Treasury credits were repaid in February, March and April without recourse to the gold reserves of the Bank of England, leaving a balance of only 2,500,000,000 franc bills to be met in September. The restrictions on exchange dealings were removed at the beginning of April, on the payment of the instalment of the Treasury credit; and the exchange problem facing the authorities was no longer depreciation of sterling but an unwanted appreciation. On 1st July the Exchange Equalization Account, a piece of machinery announced in the Budget speech, began its operations. Its original resources were £175,000,000 of which £150,000,000 was represented by the power to issue Treasury Bills.

18. A remarkable feature of the financial history of the year was the fall in short term rates of interest. The year began with Bank Rate at 6 per cent and the market rate of discount at over $5\frac{1}{2}$ per cent. The fall was immediate and rapid. At the end of the month, the market rate had fallen to $4\frac{7}{8}$ per cent. By April, it was below 2 per cent, and, in the summer, the rate of Treasury Bills had fallen as low as $\frac{1}{2}$ per cent. Bank Rate remained ineffective from the middle of January, despite reductions between 26th February and 30th June which brought it down to 2 per cent. The average margin between Bank Rate and Market Rate increased from about $1\frac{1}{4}$ per cent in the first half of the year to $1\frac{3}{4}$ per cent in the last half. In October the clearing banks attempted, but in vain, to raise the market rate of discount by raising their tender rate for Treasury bills to $\frac{3}{4}$ per cent. In the last two months of the year the weekly allotments of Treasury bills were increased from £45,000,000 to £60,000,000 and a slight increase in rates occurred, the market rate rising to 1 per cent. The extreme ease of the money market

throughout the year is well illustrated by the fact that there was no borrowing from the Bank at the turn of the half-year, an event unknown in the memory of living members of the Money Market.

19. THE EXCHANGES. The liquidation of foreign holdings of dollar assets, which had begun after the suspension of the gold standard by Britain, continued throughout the first half of the year 1932, stimulated no doubt by the increasing instability of the American banking system and the possibility of an unbalanced budget. The result was a continued efflux of gold to France, Holland, Switzerland and Belgium. The gold drain continued until the summer, when the withdrawal of French balances was completed. Indian gold hoards continued to be realized on a large scale, about £60,000,000 being sold in the year following the suspension of the gold standard.

Sterling exchange remained close to the low levels established in December 1930 throughout January and February. In March it began to appreciate and it remained very strong throughout the second quarter of the year, the average quotations being $3·69 and fr. 94·65.

Many reasons were given for the appreciation of sterling. Official purchases of foreign exchange to repay the foreign credits raised by the Bank and the Treasury had ceased during the month. The French money remaining in London had been repatriated by the end of February and, apart from about £30,000,000 held by the Bank of France, there were no further substantial French balances left. The flow of gold from India continued and was no longer balanced by official and other purchases of foreign exchange. The rates of interest in London were appreciably higher than in foreign centres and, at the same time, confidence in sterling was returning while confidence in the dollar was declining. A foreign demand for Treasury bills from American and Continental sources began to be noticed in March, and it was soon evident that foreign money was being attracted to London. This caused considerable apprehension lest "bad" foreign money should collect in London as it had before. The accumulation of £150,000,000 of foreign balances and the collapse of the exchange in the late autumn show that these fears were justified.

During March there was evidence that the exchange was being pegged, the intervention in the bullion market of an unknown buyer, suspected to be the Treasury, supporting this view. From the end of March onwards, the Bank was known to be acquiring devisen and the Treasury to be buying gold. On 14th May the Bank bought gold at a premium for the first time since the suspension of the gold standard. By 1st July, when the Exchange Equalization Account started its operations, the Bank had acquired £15,000,000 of gold and raised its gold reserve to £135,000,000. In the late summer and autumn sterling weakened, and in November and December it fell to a new low record of $3·27 and fr. 84. Mr. N. F. Hall, in his account of the Exchange Equalization Fund (see Supplement to the *Economist*, 5th May, 1934), argues that the Account was unable to support the exchange after October against the normal pressure on sterling in the autumn, the withdrawal of the foreign balances accumulated earlier in the year and the repayment of foreign holders of "unassented" War Loan. The uncertainty surrounding the American debt question was probably undermining foreign confidence in London, while the fall of the market rate of discount to less than ½ per cent. must have made London considerably less attractive to foreign money in the autumn than it was in the spring.

The resources which the Exchange Equalization Account had at its disposal for the support of sterling were the gold and devisen accumulated by the Bank during the appreciation of sterling in the spring and early summer. The Account was unwilling to use the gold, as that might be required to pay the December instalment of the American debt. The devisen held by the Account was obviously inadequate to support sterling against the withdrawal of the foreign balances which had enabled it to be accumulated as well as against any other demands for foreign exchange. The resources of the Account, according to Mr. Hall, were exhausted by October; and during November and December sterling had to be left to look after itself.

20. In the world at large, the year continued to be one of difficulty. The Reparations Conference, postponed from January, was held at Lausanne in June, at the end of the "Hoover" year.

The Final Act of the Lausanne Conference swept Reparations away, nothing but a small final payment being left.

The Central and Eastern European debtors met their Western European creditors at the Stresa Conference in September. The Conference did not consider the repayment of debt but discussed, instead, the economic obstacles which stood in the way.

Final ratification of the Lausanne Agreement had to await a debt settlement with the U.S.A. This was not forthcoming. When the Hoover moratorium expired in July Europe found itself owing $280,000,000 to the U.S.A. to be paid in December. There was an exchange of notes in November and December, after the Presidential elections, but to no purpose. Neither President Hoover nor President-elect Roosevelt was prepared to cancel or to revise the debt agreements. Great Britain paid in December in gold, £19·6 million being withdrawn from the Bank for the purpose. The sum was not charged to revenue but was added to the floating debt, and the Bank offset the loss of gold by an increase in securities of £25,000,000. France defaulted outright.

The B.I.S. rediscount credits to the central banks of Germany and Eastern Europe had to be renewed throughout the year. The Standstill agreement was renewed for twelve months in January. In April Greece abandoned the gold standard and defaulted on her debt in May. The League of Nations refused a loan to Austria in May. That country declared a transfer moratorium in July and defaulted on a League loan a fortnight later. The position in Central and Eastern Europe became increasingly grave. Exchange restrictions had permitted an internal rise of prices to occur, making the resumption of the gold standard at existing parities impossible; while clearing systems and attempts to balance imports and exports between individual countries were strangling the trade between them.

Vigorous exchange restrictions enabled Germany to keep the mark at par. Austria and Hungary were less successful, and by December the schilling and the pengö were being dealt in on the "block" market at discounts of 15 per cent and 25 per cent.

The year closed with the abandonment of the gold standard by South Africa. The suicide of Ivan Kreuger in March was

followed by the revelation of extensive frauds in the accounts of the companies with which he was associated. These difficulties, however, were surmounted without serious complications.

21. In domestic banking the fall of money rates has already been noticed. Depressed trade was also reflected in a further fall in advances, from £891,000,000 at the beginning of January to £761,000,000 in December. Deposit rate in London was reduced to ½ per cent when Bank Rate fell to 2 per cent and the country rate was brought down to 1½ per cent from the conventional level of 2½ per cent. The banks are believed to have abandoned their minimum rate of 5 per cent for advances, and to have lent at 4 per cent and 4½ per cent when Bank Rate was reduced to 2 per cent in June.

Deposits showed a very considerable rise. From a low level of £1,621,000,000 in March deposits rose steadily to an average of £1,944,000,000 in December. The reason for this rise of deposits is to be found in the policy of the Bank of England and the manipulation of the Exchange Equalization Account. The Bank of England and, later, the Account were acquiring gold and foreign exchange against sales of sterling in the spring and summer. Bankers' Deposits were allowed to rise from £70,000,000 to £83,000,000. The rise continued till September (£90,000,000), after which a reduction occurred in the last three months of the year. As the bankers' published cash ratio was lower at the end of the year than it was at the beginning no further explanation of the rise in deposits is required. The increase of deposits accompanied by a fall in advances brought the ratio of advances to deposits down to 39·1 per cent from 53·1 per cent between January and December, and forced the banks to employ in buying bills and investments the deposits they could not lend otherwise. Discounts rose by £200,000,000 from £205,000,000 in February to £406,000,000 in December, investments from £264,000,000 to £455,000,000. Heavy purchases of bills by the clearing banks coinciding with a serious shortage of commercial bills; and a further reduction in the supply of Treasury Bills helped to drive rates of discount down to well below 1 per cent, the minimum rate at which the banks were lending to the bill market.

In the capital market considerable progress was made. Fixed interest securities rose consistently all the year, from 93·4 in January, to 123·7 in December (1928 = 100).

New issues showed some recovery over 1931, a total of £189,000,000 being raised as against £102,000,000. But £103,000,000 of the total is represented by an issue in May of British Government 3 per cent Treasury Bonds. Of the remaining £66,000,000 only £30,000,000 was raised for home industry, smaller even than the figure of £36,000,000 raised in 1931.

22. The dominating feature of the capital market in 1932 was the conversion scheme. The way was prepared by the successive reductions of Bank Rate, down to 2 per cent on 30th June, and by the rise in the price of fixed interest stocks which brought the yield on British Government long-dated securities down to $3\frac{7}{8}$ per cent.

The terms of the scheme were announced by the Chancellor of the Exchequer on 30th June. The 5 per cent 1929–1947 War Loan was to be redeemed at par on 1st December, 1932. Holders were invited to continue in $3\frac{1}{2}$ per cent War Loan, redeemable after December, 1952. Assent to conversion before 31st July entitled the holder to a cash bonus of £1 per cent; and stock, the holders of which had not notified their desire to receive cash by 30th September, was considered to have been converted by default. At the same time the Chancellor appealed to borrowers not to make any public issues, an appeal which placed an embargo on the new issue market in the third quarter of the year.

A considerable publicity campaign was launched appealing to the patriotism of the holder of War Loan. The success of the scheme was assured by the middle of July. It was announced in August that 89 per cent, or £1,870,000,000 of stock, had taken advantage of the bonus offer and was to be converted. Demands for cash amounted to only £48,000,000. A rising market in gilt-edged stocks, which brought the yield of some stocks under $3\frac{1}{2}$ per cent, gave considerable impetus to conversion.

In October the final results of the scheme were announced. £1,920,000,000 out of £2,085,000,000 had been converted, leaving £165,000,000 to be redeemed in cash. This £165,000,000, together with £140,000,000 of $4\frac{1}{2}$ per cent Treasury Bonds and £13,000,000

War Loan, were dealt with by an issue of £300,000,000 of 3 per cent stock at 97½ at the beginning of November.

The embargo on new issues was partly removed at the beginning of October. The ban remained, however, on foreign lending outside the Empire and on issues requiring underwriting or cash subscriptions to replace existing issues. At the same time trustee issues had to obtain the consent of the Bank of England. These remaining restrictions continued for the rest of the year and aroused considerable criticism. It was argued that the capital market was left open to the less desirable issues but closed to reputable borrowers who wished to convert or, otherwise, to enjoy the benefits of the low rates at which money could now be obtained by first class borrowers.

23. EXCHANGE. The Exchange Equalization Account had been operating continuously in the market since Christmas 1932, when the exchange on New York first rose to $3·34. The reasons for the appreciation of sterling at this time were partly seasonal, partly due to the return of money after the subsidence of uncertainties about the War Debt and, to an increasing extent as the quarter wore on, to the inflow of foreign balances seeking asylum from the deepening crisis in the U.S.A.

The authorities were at first content to hold devisen; but, during February, the Bank of England began to acquire large quantities of gold, gains of £23,000,000 in February and another £23,000,000 in March, in addition to a small quantity obtained at the end of January, bringing the reserve up to £173,000,000 at the end of March, an increase since the beginning of the year of £53,000,000. Most of this gold was obtained through the Account, the authorities disposing of their devisen for gold and making up their sterling balances by taking the gold to the Bank. But as the operations of the Account are kept secret this inference cannot be verified.

By the middle of February, the gold released to pay the December instalment of the War Debt had been replaced. Some of it, indeed, had never left England. In the last week of January and the first of February, £6·6 million of gold held by the Bank on behalf of the Federal Reserve Board was resold to the Bank.

This very rapid return of gold back to the Bank made the excuse of December wear a little thin to American eyes. It was explained, however, that the gold influx was the result of an inflow of "bad" foreign money, a liability so short that it would have to be balanced by an asset correspondingly quick, gold. This addition to the gold holdings of the Bank was not allowed to increase the basis of credit. The £34,000,000 acquired during the four weeks ended 18th March was neutralized by an expansion in the note circulation and a sale of securities, bankers' deposit remaining unchanged.

The American banking crisis had little effect upon the London Market. There was no inordinate movement of funds into London and the Account had apparently no difficulty in keeping its control over the exchange. Towards the end of February the dollar exchange had strengthened upon the withdrawal of funds by American banks anxious to increase their liquidity. As a measure of precaution the franc exchange was pegged at 88 immediately the London exchange market opened for business on Monday, 6th March, after its temporary closing on Saturday, 4th March. On 31st March the fiduciary issue was restored to its original figure of £260,000,000.

24. Bank deposits were somewhat lower than they had been at the end of 1932. The collection of revenue was being allowed to have its seasonal effect in reducing the amount of bank cash. Advances and investments both rose by a small amount while discounts fell.

Rates of interest continued to fall even below the low levels of 1932. The banks were not taking so many bills as before; but many interests outside the clearing banks and the market, foreign as well as domestic, were buying bills.

The clearing banks maintained their minimum rates of 1 per cent for loans to the market, in face of rates of discount well below that figure. As outside money was to be had at $\frac{1}{4}$–$\frac{1}{2}$ per cent the market was repaying some of its weekly fixtures with the clearing banks.

In the capital market the Treasury embargo was continued. Only foreign issues and conversion offers of trustee stock which required underwriting or subscription of new cash remaining

under its ban. Trustee issues were not to be made without agreement with the Bank of England about the date and the amount of the issue. It was the intention of the authorities not to let capital operations place any strain upon the exchange and to prevent over-issue of trustee stock at $3\frac{1}{2}$ per cent from spoiling the "borrower's" market, which had been established.

New issues were rather more active in this quarter than they had been in the corresponding quarter of 1932. Total issues were £29,000,000 against £17,000,000, home industry taking £7·7 million against £5·9 million. The Treasury embargo encouraged issues by private placing and Stock Exchange introduction, many first class borrowers seeking this way round the embargo. Altogether £8,000,000 was issued in this way in the quarter, as much as for the whole year 1931, and half the total amount placed in 1932.

In old securities the markets were inactive. There were no substantial movements either way in equities or in the fixed interest securities.

25. Besides the dollar there were three other depreciations to record. Early in the New Year, after a few weeks of uncertainty, the value of the South African pound was settled at £95–£96 to the £100 sterling. The New Zealand pound was brought from £110 to £125 to £100 sterling, and at the beginning of February, the Canadian dollar from $3.92 to $4.11. The Danish kronor, at 22.40, stood in much the same relation to sterling as the Australian and New Zealand pounds.

There was no progress in the liquidation of international indebtedness. The German standstill agreements were continued for another twelve months in February, and Jugo-Slavia negotiated successfully a three year moratorium on her foreign debt.

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AVERAGE QUANTITY FIGURES. 1928–1932

		1928				1929				1930				1931				1932			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
1	Bank Rate	4½	4½	4½	4½	5·08	5½	5·54	5 95	4·51	3	3	3	3	2 74	4·01	6	5·21	2·85	2½	2½
2	Three Months Market Rate	4·22	3·91	4·16	4 36	4·97	5·26	5·43	5·56	3·70	2 32	2 25	2 21	2 49	2 33	3·64	5 77	4·12	1·66	·80	·85
3	New York Exchange	4 88	4 88	4·85	4 85	4·85	4·85	4 85	4·88	4 86	4 86	4·87	4·86	4 86	4·86	4 75	3·66	3·51	3·69	3·50	3·32
4	Paris Exchange	124	124·15	124·19	124·12	124 17	124·11	123 88	123 80	124 11	123 94	123·75	123 70	123·63	124·29	121 12	93 15	89 11	94·65	89·32	84·38
5	New Issues £000,000	103·4	99·3	66·6	93·3	114 2	81·3	28·4	29 7	69·5	72 4	28·0	66 3	45·4	25 5	8·2	9 6	27·0	47·8	3·3	34·9
6	Advances £000,000	923	934	932	942	968	981	979	971	973	962	938	920	913	918	897	889	88·9	854	805	872
7	Deposits £000,000	1706	1703	1738	1770	1775	1748	1764	1763	1721	1747	1775	1811	1781	1714	1711	1686	1666	1677	1801	1885
8	Percentage Ratio of Advances to Deposits	54·2	54·8	53 3	53·3	54·6	56·1	55·5	55 1	56·6	55·1	52·9	50·8	51·3	53·6	52·8	52·8	54·0	57·1	44·6	41·1
9	Gold in Bank (First Return of Month) £000,000	154·7	157·4	173·2	165·1	154·2	155·8	154·4	131 7	150·5	156 2	156·3	155 6	145·9	144 5	163·3	134 8	120·7	120·8	136·1	139·4
10	Proportion (First Return of Month)	$21\frac{15}{16}$	$35\frac{1}{8}$	$38\frac{1}{4}$	$47\frac{1}{8}$	$24\frac{7}{32}$	$41\frac{28}{32}$	33	24	$22\frac{19}{32}$	$50\frac{13}{32}$	40	$48\frac{23}{32}$	$37\frac{5}{16}$	$43\frac{19}{32}$	$46\frac{3}{16}$	$36\frac{29}{32}$	$24\frac{19}{32}$	$29\frac{11}{16}$	$33\frac{3}{16}$	40
11	Discounts £000,000	226	210	251	252	249	201	227	228	214	242	282	309	288	232	258	239	219	253	360	395
12	Investments £000,000	241	232	239	243	247	244	242	237	229	230	249	264	290	279	286	284	266	293	349	420

NOTES

Series 1–4 are the quantity averages of daily figures.
Series 5 is the total in £000,000 for the quarter.

Series 6, 7, 8, 11 and 12 are the quantity averages of the monthly figures.
Series 9 and 10 are the first returns in the first month in each quarter.

MONTHLY FIGURES, APRIL, 1931—MARCH, 1932

	April	May	June	July	August	Sept.	Sept. 1–19th	Sept. 21–30th	Oct.	Nov.	Dec	Jan.	Feb.	March
Bank Rate . . .	3	2·72	2	2·66	4·41	4·8	4½	6	6	6	6	6	5·59	4·04
Market Rate . .	2·61	2·26	2·12	2·14	4·31	4·28			5 71	5 76	5 84	5·65	5·11	2·64
New York Exchange .	4·8600	4·8641	4·8650	4 8566	4 8577		4 8602	3·44	3 89	3 72	3·37	3·43	3 46	3 63
Paris Exchange . .	124·28	124 34	124·24	123·82	123·90		123 93	100	98 68	94 83	85 95	87·32	87 80	92·22
Berne Exchange . .	25·235	25·219	25 081	24·995	24·922		24 921	20·1	19 83	19·09	17·30	17·58	17·73	18·75
Amsterdam Exchange .	12 106	12·103	12·088	12·057	12·046		12 050	9·075	9·62	9·26	8·35	8·54	8 56	8·99
Advances (£000,000) .	925	919	908	898	895	897			896	887	887	871	888	888
Deposits (£000,000) .	1698	1700	1744	1750	1708	1675			1688	1670	1700	1677	1621	1639
Percentage Ratio of Advances to Deposits .	54·5	54·1	52·1	51·3	52·4	53·6			53 1	53·1	52·2	53·1	54·8	54 2
Gold in Bank (£000,000)	114·5	147·5	151·9	163·3	133 5		135·3	134·7	134 8	135 7	120 7	120·7	120·8	120·8
+ or − . . .	+ 3·6	+ 3 0	+ 4·4	+ 11·4	− 29 8		+ 1 8	− ·6	− 9	+ 9	− 15·0	± 0	+ ·1	+ 0
Proportion . .	$43\frac{19}{32}$	$52\frac{7}{32}$	$50\frac{3}{32}$	$46\frac{3}{16}$	$41\frac{3}{16}$		45 5	39 0	$36\frac{29}{32}$	$31\frac{13}{32}$	$28\frac{13}{32}$	$24\frac{19}{32}$	$38\frac{29}{32}$	$36\frac{29}{32}$

Gold Export Points: New York, 4·84875, Paris, 123·89, Amsterdam, 12·055.

INDUSTRIAL RELATIONS

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INDUSTRIAL RELATIONS

I

INTRODUCTION

THE starting point of the period of industrial relations which includes the depression years was not 1929 or 1930 but 1927, following the disturbed early post-war years culminating in the General Strike and coal stoppage of 1926. The outstanding characteristic of the period has been relative freedom from stoppages of work, despite the economic upheavals of the depression. This is indicated by the statistics of strikes and lock-outs, which show no close correspondence with the fluctuations of economic conditions, although in a few of the exceptionally depressed industries relations have been disturbed, largely by differences about wages, at times when economic conditions had deteriorated.

It should not be assumed, however, that the depression has had little effect upon industrial relations, or that the state of industrial relations is indicated only by statistics of strikes and lock-outs. The depression years have been accompanied by wage reductions, decline in trade union membership and funds, and employers' organizations are believed to have been similarly affected although statistics are not available. But unemployment, short-time, severity of competition and desire to avoid additional loss of trade have made workpeople and employers alike especially anxious to compose their differences without resort to stoppages of work. Their efforts have been largely successful, notwithstanding the great changes in prices, employment, production and trade, which gave many more occasions for conflict than in a period of economic stability.

The eight years from 1927 to 1934 were the most peaceful in British industrial relations for over a quarter of a century. They and the years 1900 to 1907 rank as the two least disturbed periods since 1893, when official statistics of industrial disputes were first compiled. The absence of serious disputes during 1927 and 1928 was due no doubt to exhaustion, disillusionment, and

recognition of the futility of industrial stoppages following the disastrous experiences of 1926. The next four years, 1929 to 1932, though more disturbed were nevertheless comparatively free from conflict, while the years 1933 and 1934 were the best on record.

The most satisfactory measure of the severity of strikes and lock-outs is the aggregate number of working days lost, this being the sum of the number of workers involved in each stoppage multiplied by its duration. The following are the figures for the last eight years—

Year	Working Days Lost	Year	Working Days Lost
1927	1,170,000	1931	6,980,000
1928	1,390,000	1932	6,490,000
1929	8,290,000	1933	1,070,000
1930	4,400,000	1934	960,000

These totals may appear formidable, but the yearly average of about 3,850,000 working days if spread over the ten millions of British industrial workers represents only about four-tenths of a day's loss of work per worker each year. In actual time it is the equivalent of one additional public holiday every two and a half years, but this does not allow for the discontent of which the loss of time is an index and which adversely affects production while the worker is at work. Nor does it take into account the fact that the loss each year is usually concentrated mainly upon the workers in one or two industries.

During the early post-war years from 1919 to 1926 the losses were more than eleven times as great as in the period from 1927 to 1934, and even excluding the exceptionally disturbed year 1926 they were more than seven times as great. In the eight years immediately before the war the yearly average was about 12,000,000 working days, or about three times the yearly average since 1927. Loss of working time due to strikes and lock-outs has, in recent years, been very small compared with that resulting from sickness, which has been more than twenty-five times as great, and with that from unemployment, which has been more than one hundred times as great.

II

The Industries Chiefly Involved in Stoppages

The losses have been mainly due to a few important disputes involving large numbers of workpeople. These were concentrated in the years 1929 to 1932, no major disputes having taken place during 1927, 1928, 1933 or 1934. The most disturbed industry was cotton textiles, which suffered from a big dispute in each of the years 1929, 1931 and 1932, the total working days lost during these three years being 15,567,000, or over 70 per cent of the losses in all industries. Coal mining came next with a total loss of 6,205,000 working days between January, 1927, and December, 1934, or about one-fifth of the total losses in all industries; nearly one-half of the coal mining losses were due to disputes in 1931. The woollen and worsted industry lost 3,279,000 working days in 1930 mainly in one big dispute, but in the remainder of the period under review the losses in this industry were slight.

By comparison with cotton, wool and worsted, and coal mining, other industries enjoyed tranquil conditions, although building and public works, shipbuilding, and transport each lost more than half a million working days during the years 1927 to 1934.[1] The statistics of working days lost in the industries chiefly involved in disputes during this period are as follows—

Industry	Working Days Lost	Percentage of Working Days Lost in All Industries
Textiles	20,576,000	66·9
Coal Mining	6,332,000	20·6
Shipbuilding	679,000	2·2
Building and Public Works	648,000	2·1
Transport	578,000	1·9
Woodworking and Furniture	287,000	0·9
Other Industries	1,650,000	5·4
	30,750,000	100·0

[1] The shipbuilding losses were largely in 1929, and the transport losses in 1932 and 1933; in building and public works they were more widely distributed throughout the period.

III

Changes in Wage Rates

The chief cause of most of the big stoppages has been wage questions, or the relation between wages and hours, although the "more looms to a weaver" controversy caused heavy losses in cotton manufacturing in 1931 and 1932. The whole period from 1927 to 1933 inclusive was one of wage reduction, but, except in a few industries, the reductions in money rates were not great, especially if account be taken of the severity of the depression, and they were more than off-set by the fall in the cost of living. In most industries the downward adjustment of wage rates was made by peaceful methods, the very comprehensive machinery for joint negotiation operating effectively. It is certain, however, that the abandonment of the gold standard in 1931 and the subsequent improvement of business conditions and cessation of deflationary trends saved the country from further reductions in money wages which would have encountered strong opposition from the trade unions.

During the whole period from 1927 to 1933 the estimated net decrease in weekly full-time rates of wages of all workpeople affected by changes reported to the Ministry of Labour was about £1,350,000. This represented a reduction in rates of about 5 or 6 per cent. The amounts of net decrease each year were as follows—

	£		£
1927	357,800	1931	401,150
1928	142,000	1932	249,200
1929	78,800	1933	65,250
1930	56,000		

During the period of the world depression the net decreases were greatest in 1931 and 1932. In 1934 the trend was reversed, a net increase of £91,500 being recorded.

The Ministry of Labour's index numbers showing changes in weekly full-time rates of wages and in the cost of living are tabulated below. It should be emphasized that these figures do not indicate changes in earnings, which are affected by the amount

of short-time, unemployment, and reduced opportunity for overtime earnings.

INDEX NUMBERS SHOWING CHANGES IN WEEKLY FULL-TIME RATES OF WAGES AND IN THE COST OF LIVING
(JULY 1914 = 100)

Year	Wage Rate Index	Cost of Living Index	Year	Wage Rate Index	Cost of Living Index
1927	170–175	167½	1931	166–170	147½
1928	170–175	166	1932	165	144
1929	170–174	164	1933	164	140
1930	170–174	158	1934	165	141

IV

TRADE UNION MEMBERSHIP

The depression years saw a decline of nearly half a million in trade union membership, the heaviest losses being in 1931 and 1932. This decline continued a trend which had been almost uninterrupted since 1920. In that year the trade union movement attained its highest numerical strength, its membership reaching 8,346,000. By 1927 it had fallen to 4,918,000, the chief losses being in 1921 and 1922. In 1929 the figure was 4,856,000, while the 1933 membership was 4,383,000, or about one-third of the number of workpeople then covered by the Unemployment Insurance Acts. This was little more than the pre-war numerical strength; indeed, if allowance be made for growth of population the strengths in 1913 and in 1933 were almost identical. It should be noted, however, that for the greater part of a decade before 1913 generally prosperous business conditions and rising prices had been favourable to recruiting members, whereas 1933 had been preceded by many years of deflation and unemployment.

The most strongly organized trades include mining and quarrying, railway transportation, the metal and textile trades (especially cotton), building and contracting, road and water transportation, dock labour and general labour. These branches of industry include nearly three-quarters of all organized labour. The proportion of women trade unionists is greater than before

the war, but is still only about 15 per cent of the total. The textile trades and teaching account for 60 per cent of the female membership of all unions.

V

Relations in Various Industries

1. Cotton Textiles. Statistics have already been given which show that the cotton textile industry was involved in disputes causing greater losses in working time during the years 1927 to 1934 than those of all other industries together. This situation has been largely due to the exceptionally difficult conditions with which the industry has been faced in international markets, and to consequent attempts to increase competitive power by reducing wages and by applying the system of more looms to a weaver. The first big dispute occurred in the summer of 1929 when demands for wage reductions were resisted by the workers, and a lock-out resulted in August. This lasted for three weeks and a settlement was then effected by arbitration, which provided for a reduction of 12½ per cent on standard piece price lists, this being equivalent to a reduction of 6¼ per cent on current wages.

The "more looms to a weaver" controversy in the manufacturing section of the industry came to a head in January, 1931, when a strike against the introduction of the system took place at nine mills in Burnley. In retaliation the employers first locked out the weavers at all Burnley mills, and then extended the lock-out to weavers in the whole of Lancashire. About the middle of February the mills were re-opened, and, as the employers had decided, pending further investigation, to postpone the adoption of the more looms system, the weavers returned to work. The absence of a final settlement, however, left the manufacturing section in a state of unrest, while towards the end of the year the spinning section experienced difficulties owing to a decision of the employers to terminate the 48 hour week agreement of 1919, and the refusal of the unions to discuss a new agreement with longer hours. The difference did not, however, result in a stoppage of work.

Determination of the manufacturers to introduce the more looms system again resulted in strikes at various Burnley mills in February, 1932. Failure of negotiations to effect a general settlement of the question was followed by the employers giving notice to terminate the 1929 wage settlement and demanding reductions in wage rates. Agreement not being reached the employers in Burnley gave notice in July that they would reduce rates by 12½ per cent. This caused a strike first of Burnley weavers and then of weavers throughout Lancashire, which continued until the end of September when a settlement was effected with the help of the Ministry of Labour, represented by Mr. F. W. Leggett, Chief Conciliation Officer of the Ministry. Its provisions included wage reductions of 1s. 8½d. in the pound, and the setting up of improved methods of negotiation, the principal feature of which is that in the event of a breakdown between the two parties the difference should be referred to conciliation machinery including persons of independent status. The more looms question was then considered by a joint body with an independent chairman, and a few months later agreement was reached upon the conditions to be observed in a limited application of the system, including the additional wages to be paid to the operatives.

The master spinners also demanded wage reductions and an agreement on similar lines to the weaving settlement was reached, with the intervention of the Ministry of Labour. The rate of wage reduction was, however, 1s. 6½d. in the pound for most categories, but with somewhat smaller reductions for certain of the lower paid occupations.

The industry was free from serious stoppages in 1933 and 1934, although there were protracted strikes at one or two mills over the method of application of the more looms agreement. The outstanding event in 1934 was the passing of an Act of Parliament—The Cotton Manufacturing (Temporary Provisions) Act—which enables statutory effect to be given to rates of wages agreed between representative organizations in the industry. The purpose of this measure, which was urged upon the Government by both manufacturers and weavers, is to prevent a minority of employers and workers, in their desire to secure trade or employment, from offering or accepting employment at lower

wages than those provided for in the collective agreements. This introduces a new principle in British labour legislation.

The scope of the Act is restricted to the weaving side of the industry, and its effect is to enable the Minister of Labour to issue an Order extending wages agreements to employers who are not members of their appropriate organizations, provided organizations representing the majority of employers and operatives jointly apply for the issue of such an Order. Any employer paying lower wages than those payable under an Order is liable to a fine of £10. The enforcement of an Order is left to those in the industry, while the Act is to remain in operation for three years. Shortly after the passing of the Act, representatives of the employers and operatives in the weaving section undertook the negotiation of new wage scales, and agreement was reached on a schedule of rates to supersede the old list based on principles originally established in 1853. The agreement was ratified by the two sides, and has been submitted to the Minister of Labour with a view to its having statutory effect under the 1934 Act.

2. WOOL AND WORSTED. This industry has experienced a breakdown of its system of collective agreements, partly as a result of the conflict about wages in 1930. Already in 1929 wage reductions had been made separately in the different areas, without any general agreement being concluded. Towards the end of 1929 the employers made a general demand for substantial reductions in wage rates, and, in view of the situation created when this demand met with the strong opposition of the workers, the Minister of Labour, using powers conferred by the Industrial Courts Act, 1919, appointed a Court of Inquiry to conduct an investigation. Early in 1930 the Court, which consisted of only one member, Lord Macmillan, recommended a reduction of wages, though a much smaller one than was claimed by the employers.[1] The recommendations of a Court of Inquiry have not the force of an award, and the workers, declining to accept wage reductions, went on strike. The stoppage continued for about eight or nine weeks, when the workpeople drifted back to

[1] The employers proposed reductions of 15·68 per cent for time workers and of 18·47 per cent for piece workers, while the Court's recommendations on reductions for these categories were 9¼ per cent and 8¾ per cent respectively.

work usually at rates representing reductions of 5 to 9·25 per cent on current wages. No general agreement was concluded, the rates of pay being regulated by local or even factory agreements or understandings. Further wage reductions were made in 1931 by individual action, the cuts usually being 11·7 per cent and 11·2 per cent on current time and piece rates respectively.

Subsequent attempts to reach a comprehensive agreement were unsuccessful, and, in view of the low wages of various categories of workers, the long hours worked by some firms, and the state of disorganization of the machinery for regulating wages, the unions even proposed that an official investigation should be conducted with a view to setting up trade boards in the industry. The Minister of Labour, however, did not agree with this proposal, considering that wages and hours in this industry should be the subject of direct discussion between the unions and the employers' organization. Certain discussions took place during 1934 for the first time in four years, but no agreement was reached.

3. Coal Mining. Coal mining usually suffers the greatest losses from industrial disputes, but in recent years it has been displaced by the cotton textile industry. Lately the most disturbed districts have been South Wales and Scotland, partly owing to the severe depression from which these areas have suffered. Already towards the end of 1929 differences arose over the wages to be paid in those districts in which hours of work underground were to be reduced from 8 to 7½ per shift under legislation introduced by the Labour Government, but temporary settlements were reached continuing existing wage rates until such time as the reduction of hours should take effect. In the following year a strike took place at most of the mines in Scotland on the questions of the permissible "spread-over" arrangements for hours of work under the Coal Mines Act, 1930, and of reduced wages for the 7½ hour shift. By the spreadover system, any district could distribute 90 hours of work per fortnight in other ways than by shifts of 7½ hours a day, but such an arrangement required the approval of the Mining Association and of the Miners' Federation. After a week's stoppage the Scottish miners returned to work on a spread-over arrangement, largely owing to the unwillingness of the Miners' Federation to call a coal strike

in their support throughout Great Britain. The Miners' Federation did not, however, give its approval to the arrangement, which was, therefore, strictly speaking illegal.

In South Wales a similar, though temporary, agreement was reached without a stoppage, while in some districts the problem did not arise as, although the Coal Mines Act, 1926, had permitted an 8 hour shift for underground workers, agreements to work a $7\frac{1}{2}$ hour shift had been in force and no changes were necessary when this shorter shift was made statutory under the 1930 Act.

The 1930 Act also provided for the constitution of a Coal Mines National Industrial Board to deal with wages and other conditions of labour. This was in partial satisfaction of a demand by the miners for national machinery to review district conditions. The coal owners, however, were strongly opposed to a national system, and, although the Board has no power to regulate wages either nationally or in settlement of a district dispute but can only inquire into and report upon any district dispute referred to it, the Mining Association and other employers' organizations declined to suggest names of persons to represent the coal owners on the Board. Nevertheless, the Board was set up, but with members on the employers' side serving in their individual capacity, and not as representatives of organizations. This inevitably weakens the authority of the Board, which, however, has conducted investigations in several district disputes.

South Wales was involved in a stoppage in January, 1931, on the demand of the employers for wage reductions when the miners refused to renew the temporary spread-over arrangement. A settlement was effected by both sides accepting an award of the independent Chairman of the district Joint Conciliation Board; by this award (the Schiller award) wage rates and subsistence allowances were reduced, but the novel principle was introduced of making allowance for family responsibilities in determining the subsistence rates.

New legislation regulating hours of work of underground miners was passed in the summer of 1931. This was rendered necessary by the lapsing of the Coal Mines Act, 1926, enabling for a period of five years a shift not exceeding 8 hours to be worked. This condition had already been modified by the 1930

Act. Without new legislation the 7 hour shift would have been restored in 1931 under legislation dating from 1919. The 1931 Act fixed the maximum duration of the underground shift at 7½ hours for the ensuing twelve months, abolished the spread-over system, and required the payment of not less than the existing wage rates throughout the twelve month period.[1] This last provision represented the adoption of a new principle in British legislation, Parliament giving direct statutory force to specific minimum rates of wages. When, however, in 1932 Parliament again passed legislation continuing the 7½ hour shift, the wage provision of the 1931 Act was not renewed, although the employers gave a guarantee to the Government that they would not reduce wages for a further period of one year.

A week's stoppage took place in August, 1933, in the anthracite section of the South Wales coal industry. The questions in dispute were the operation of the seniority rule in reductions of staff, and the non-payment of the minimum wage at certain collieries. The dispute was settled by a series of local agreements. A strike lasting about six months at Pontefract on the allowance to be made for dirt in coal was settled by a compromise.

In 1934, increases in wage rates in certain districts were provided for by new agreements and also by the operation of the system of adjusting wages to net proceeds. Thus an agreement arranged by the Scottish Coal Trade Conciliation Board restoring a 5 per cent cut in the wages of surfacemen was ratified in March. In view of the effects of general trade improvement the South Wales Miners' Federation made application early in 1934 for substantial increases in wages. After failure of the South Wales Joint Conciliation Board to effect a settlement the Federation referred the application to the Coal Mines National Industrial Board which recommended that part of the wage increase demanded should be granted. This Board had, however, never been recognized by the owners' organizations, and its findings were not acceptable to their members. Finally when a strike was imminent the two parties agreed to submit the issue to

[1] In Scotland, where the spread-over system permitted by the 1930 Act had been applied, wage adjustments were necessary in relation to the 7½ hour shift, but these were effected without a stoppage.

arbitration, and an award by the *ad hoc* Bridgeman Arbitration Tribunal was accepted making certain increases in wage rates and abandoning the family allowance principle which had been a feature of the Schiller Award but of which the Union disapproved.

Scarcely had this difference been settled than the South Wales coal mining industry was again faced with the possibility of a conflict. Already difficulties had arisen between the South Wales Miners' Federation and the South Wales Miners' Industrial (Non-Political) Union. A strike began in December, 1934, at the Taff-Merthyr Colliery, Trelewis, because some of the men objected to being required to be members of the Industrial Union as a condition of employment and to having dues for this Union deducted from their pay by the Company, and because certain men who had joined the Federation had been dismissed. The Federation threatened to call a stoppage throughout South Wales in order to enforce a settlement, but the Company and the Federation finally agreed to a scheme for a ballot by the men employed by the Company to determine which union shall represent the men. This dispute, unusual during recent years in Great Britain, is reminiscent of many disputes about "company unions" and trade union recognition which have been so frequent in the United States, especially since the passing of the National Industrial Recovery Act.

4. RAILWAY TRANSPORTATION. Railway wages were reduced by 2½ per cent in 1928, and an agreement was reached in October, 1929, that this reduction should be continued until May, 1931, and that the cut should then be restored. However, with the deepening of the depression the railway companies made claims about the end of 1930 for considerable reductions in wages and overtime rates and other changes in working conditions. In April, 1931, on the recommendation of the National Wages Board, all wages and salaries were again reduced by 2½ per cent and an additional reduction of 2½ per cent was made on wages over 40 shillings a week and on salaries over £100 a year.[1] Substantial reductions were also made in rates of payment for overtime, night and Sunday work, and arrangements for working hours to

[1] For men whose base rates were under 41 shillings a week, the deductions were not to be operated to reduce wages below those base rates.

be spread over a period not exceeding twelve hours became permissible except for signalmen and train operators. Railway shopmen's wages were also reduced by $4\frac{1}{8}$ per cent, it being, however, provided that the wages of the lower paid categories should not be reduced below £2 per week.

Towards the end of 1932 the railway companies proposed that the wage reductions which came into operation in April, 1931, should be replaced by a general reduction of 10 per cent subject to the provision that the full-time weekly earnings of any workman should not fall below 38 shillings. The National Wages Board failed to reach any agreement, there was a deadlock and the independent chairman was isolated, and his recommendation for much smaller reductions than those claimed by the companies was subsequently rejected by the Unions. As the Companies did not attempt to force wage reductions a stoppage was avoided. In March, 1933, however, the railway companies gave the required twelve months' notice that they would terminate the obligation to submit disputes to the National Wages Board, but stated their willingness to continue their participation in the other conciliation machinery incorporated in the Railways Act, 1921, and expressed themselves prepared to consider with the unions the setting up of a new national system for wage regulation. Discussions with this object were begun in the autumn of 1933. A project of the Companies was opposed by the unions largely because the suggested new tribunal would be limited to dealing only with major issues, because it would sit in private, and because its findings would be obligatory. The Unions also expressed themselves satisfied with the machinery established under the Railways Act, 1921, preferring a tribunal on which the unions were represented to one composed wholly of independent members, as the companies proposed. Finally, in January, 1935, an agreement was announced which was a compromise. Chief responsibility for settling disputes will rest upon the representatives of the Companies and the Unions in joint discussions, but in the event of a breakdown on a major question, the issue will be referred to an impartial tribunal, the decisions of which may, however, be rejected.

Although the railways in Great Britain avoided a stoppage,

railwaymen in Northern Ireland refused to accept a wage reduction recommended by a majority of the Irish Railway Wages Board, and a strike began in January, 1933, which continued until April. A settlement was then effected by which somewhat smaller reductions than those proposed by the Board were accepted, but this gain was offset by the abandonment of the system of paid holidays.

Early in 1934, on the basis of improved business conditions, the British railway unions put forward claims for the cancellation of the percentage deductions from wages that had been made since 1931. After protracted direct negotiations agreement was reached that the additional 2½ per cent cut made in April, 1931, should be reduced to 1¼ per cent as from the beginning of October, 1934, and should be abolished altogether at the end of the year. The remaining 2½ per cent reduction was modified in favour of male adults whose base rates did not exceed 44 shillings a week.

5. OTHER TRANSPORTATION. In view of their special conditions and their recent reorganization under the London Passenger Transport Board, the Metropolitan underground railways are here dealt with separately from the main line railways. Early in 1932 the London underground companies claimed a reduction of wages, which was ultimately accepted largely because reductions had been effected on the main line railways in the spring of 1931. A claim for reduction of the wages of London omnibus men was also made, but the men's opposition was so strong that the terms of settlement were considerably more favourable to the men than were the original proposals. In 1932 also tramwaymen's wages were reduced by a shilling a week in London, and by 1s. 6d. or 2 shillings a week in other towns.[1]

In January, 1933, omnibus drivers and conductors took part in a strike, unauthorized by the union, in protest against reduced time schedules, introduced experimentally for some of the journeys, which they regarded as involving an undue speeding up of their work. The strike collapsed, but subsequently after negotiations between the Union and the London Passenger Transport Board a wage increase of one shilling a week for drivers and two shillings a week for conductors was agreed upon in

[1] Rates of 47s. 6d. a week or less were not reduced.

consideration of the new time schedules, the wage increases to take effect in 1934, together with an arrangement extending the holiday period to twelve days per annum.

In road transport the outstanding event during recent years was the passing of the Road and Rail Traffic Act in 1933 by which the observance of fair wages and conditions of employment is made a condition of the granting of licences for general and local carriers. The Act was designed to reduce the disparity between the standardized conditions of employment on the railways and also in road passenger transport and the lack of uniformity in the undertakings transporting goods by road motor vehicles. In accordance with this legislation the National Joint Conciliation Board for the road haulage industry prepared during 1934 a comprehensive report on minimum scales of pay, hours of work, overtime and Sunday rates and paid holidays, and also recommended the establishment of a joint conciliation board in each of the Traffic Commissioners' areas, these conditions to come into operation at the beginning of 1935.

A reduction of tenpence in the daily wage rates of dockers took effect at the beginning of 1932, the new minimum daily rates being 11s. 2d. at the larger ports and 10s. 2d. at the smaller ports. The lightermen and watermen in the Port of London, however, went on strike in opposition to a reduction of wages similar to that applied to the dockers, but after six weeks they returned to work at the reduced rates. About the same time the wages of seamen were reduced.

In 1934 the Transport and General Workers' Union claimed for the dockers a restoration of the levels of wages in force before the 1932 reductions. After protracted negotiations agreement was reached by the National Joint Council for Dock Labour providing that one-half of the 1932 reductions applied to day wage men would be restored on the 17th December, 1934, and that more or less proportionate increases should take effect for other categories. Tramwaymen's wages were also increased during 1934.

6. OTHER INDUSTRIES.[1] In the engineering industry the basic rates of piece workers were reduced in June, 1931, from a 33⅓ per

[1] This section deals only with the principal wage changes and other issues raised in a few of the chief industries.

cent to a 25 per cent margin above time rates, and rates for overtime and night shifts were also reduced. The unions were strongly opposed to reductions, which they only accepted, with certain concessions, when the Engineering and Allied Employers' National Federation had declared its intention to apply the new rates, if necessary, without agreement with the unions. Early in 1934 the engineering unions submitted to the Federation an application for the introduction of a 40 hour week without decrease of wages, largely as a means of reducing unemployment caused by mechanization, but the application was refused on the grounds that costs of production would be increased, and trade would therefore be adversely affected, and that unemployment was not the result of mechanization. The unions then demanded increases in wages, negotiations upon which were continued into 1935.

Wage reductions, which mainly affected piece workers, were enforced upon shipbuilding workers in 1931, without the agreement of the unions. During the previous year the wages of many adult time workers had been increased, on the adoption of national uniform time rates, by amounts ranging from 6d. to 5s. a week. In 1934, the shipbuilding unions presented a claim for a 40 hour week, to which, however, the Shipbuilding Employers' Federation has not acceded. In the same year also a difference became acute over the determination of shipbuilding employers to form electric welders into a separate class of workmen, and to recruit them without regard to the specialized training of the past. The unions contended that there was no necessity for a new class, and that if more welders were wanted there could be an extension of the training of apprentices within the existing grades. The Federation decided to put the scheme into effect without the agreement of the unions.

The wages of many categories of iron and steel workers are adjusted by sliding scales based upon the selling prices of typical products of the industry. Largely as a consequence of tariffs the trends of prices and wages in this industry were upwards, especially in 1933. In several industries wage reductions have been effected by the operation of cost of living sliding scale agreements, for example textile bleaching, dyeing, printing and

finishing. Wages in the building industry were reduced by ½d. per hour for skilled categories and by ¼d. to ½d. for labourers in each of the years 1930, 1931 and 1932. In the interests of national economy, cuts were made in September, 1931, in the salaries or wages of civil servants, local government employees and teachers, but by 1934 these cuts had been partially, for some categories wholly, restored as national and local government finances improved.

VI

General Trends

Reference has been made to the demands by the engineering and shipbuilding unions for a 40 hour week, with maintenance of weekly wages, as a partial remedy for unemployment. Interest in the shorter working week is widespread among the workpeople, its discussion in Great Britain having been stimulated by the placing of the question on the Agenda of the International Labour Conference, Geneva, in 1933, 1934, and 1935, and by the policy of reduced hours applied in the United States by the National Recovery Codes of Fair Competition. The general introduction of a 40 hour week by government intervention is supported by the Trades Union Congress, but it is opposed by British employers' organizations, while the Government considers that each industry should be treated separately. The Minister of Labour has, however, discussed with the Trades Union Congress General Council and the National Confederation of Employers' Organizations the problems of reductions of working hours and related questions in various industries.

While the question of the shorter working week is being widely debated in its general aspects, there is a steady if gradual tendency for individual firms in different industries to reduce hours of work below the levels of 47 or 48 per week introduced in most industries by collective agreements in 1919 and 1920. Reduction of hours is often combined with adoption of a five day week, the change sometimes being made so as to permit of the introduction of labour saving methods without dismissal of workpeople or reduction of weekly earnings. Tendencies are also operating for the wider adoption by individual firms of the system of paid

holidays, and of retirement pensions to supplement those payable under legislation.

Arising out of the Turner-Melchett Conferences for establishing improved industrial relations, a permanent method of co-operation was adopted in 1929 by the Federation of British Industries, the National Confederation of Employers' Organizations and the Trades Union Congress General Council. During the following year the Federation of British Industries and the Trades Union Congress General Council held joint discussions and reached similar conclusions upon the questions of finance and industry then under investigation by the Macmillan Committee. One or two other questions were also jointly discussed, but the results of co-operation can scarcely have fulfilled the hopes of its initiators.

VII

Labour Legislation

In the field of labour legislation, reference has already been made to Acts regulating the hours of work of underground coal miners, to the Coal Mines National Industrial Board constituted under the Coal Mines Act, 1930, to the Act dealing with the transport of goods by the road motor industry, and to the 1934 Act providing opportunity under certain conditions for wage rates fixed by collective agreements in the weaving section of the cotton textile industry to be given statutory force. Among other important Acts of Parliament passed during recent years are the Widows', Orphans' and Old Age Contributory Pensions Act, 1929, which extends benefits to new groups of pensioners, the Children and Young Persons Act, 1933, which consolidates previous legislation, the Mining Industry (Welfare Fund) Act, 1934, extending the period of the output levy on coal but reducing the rate of levy from a penny to a halfpenny a ton, the Workmen's Compensation (Coal Mines) Act, 1934, requiring the owner of a coal mine to insure against his liabilities under the Workmen's Compensation Acts, and the Shops Act, 1934, fixing the normal maximum working hours of young persons employed about the business of a shop at 48 in any week, to take effect from about the end of

1936, regulating the amount of overtime of young persons, and requiring the maintenance of suitable arrangements for the health and comfort of shopworkers generally.

Of outstanding importance are the various Unemployment Insurance Acts, and especially the Unemployment Act, 1934, separating unemployment insurance, unemployment assistance, and relief, the provisions of which are so well known that they do not require recapitulation. It may, however, be mentioned that the 1934 Act restored the rates of insurance benefit in force before the reductions which had been effected under the National Economy Act, 1931.

Under the Trade Boards Acts, 1909 and 1918, inquiries were made by the Ministry of Labour into the conditions of employment prevailing in the catering trade (1930) and in the cutlery, and fustian cutting trades (1933), and Orders were subsequently issued extending the application of the Acts to these trades.

VIII

Conclusions

The early post-war struggles, especially the disasters of 1926, proved that, as in the world war, both sides must be permanent losers in any conflict of more than very short duration. Workers as well as employers in many industries came to recognize that Great Britain was faced with increasingly severe competition in world markets, that every prolonged conflict made a gift to foreign competitors of trade which this country could ill afford to lose, and that both sides must go to greater lengths of mutual concession if Great Britain was not to be unduly handicapped in the struggle to maintain her industrial position. Persistent unemployment, reduced business profits and declining trade union membership have contributed to a greater determination to solve differences by peaceful means.

There is also growth of a larger sense of responsibility in leadership on both sides. Those in control of great national employers' associations and trade unions recognize how much graver are the consequences of a national stoppage in comparison with those of the local disputes of a few decades ago. These changes

in attitude are indicated by the contrast between the business depression of 1921 which was attended by conflicts of exceptional severity and the still deeper depression of 1930–34, in which the losses from stoppages were small. The determination to avoid conflict has been especially evident in the coal-mining industry, which is still suffering from the effects of the 1926 stoppage; part of the trade then lost has never been recovered, while some miners are not yet free from debts which they contracted for their maintenance during that year. In most industries comprehensive machinery for negotiation and conciliation has been established, and there is a growing tendency, when direct negotiations fail, for differences to be referred to arbitration by an independent person or tribunal.

The question arises whether the more peaceful conditions of the past few years will be maintained when business prosperity returns. Many of the problems which gave rise to acute differences in the past, for example trade union recognition, now present little difficulty, but the progress of industrial and economic evolution is continually raising new problems. Signs are not wanting of a desire to avoid a return to the old attitudes and conflicts, but the preservation of industrial peace will largely depend upon a reasonable sharing of the benefits of industrial recovery and of increased productivity as industry becomes more efficient. Such sharing is now widely recognized as essential for sustained prosperity.

Recent stability in the purchasing power of money has also made a considerable contribution towards industrial peace. Wide fluctuations in currency values involve changes in money wages, for reasons which are often misunderstood, and the strain upon industrial relations is increased. There is no doubt that the suspension of the gold standard in 1931 and the subsequent stability of the internal purchasing power of sterling have contributed to the maintenance of industrial peace in this country during the last three years.

Improvement in the status of the worker and social legislation providing for greater economic security have done much to remove the old bitterness which increased the difficulties of negotiation and conciliation. Within the undertakings more

consideration is being given to the human factor, for reasons not of paternalism but of productive efficiency. Increasing interest is being shown in methods of leadership and workshop management, and in the results of research into problems of industrial health and psychology, the application of which is strengthening the foundations of industrial peace.

PART II
SEPARATE INDUSTRIES

AGRICULTURE

Introduction by C. S. ORWIN, M.A.

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AGRICULTURE AND THE WORLD CRISIS

Introduction

The practice of agriculture in most parts of Britain, as it has been developed in the last century, is sharply differentiated from that of nearly all other countries, in the extent to which it depends upon a capitalistic organization. Even if the oriental nations be disregarded, it is true to say that such food and raw materials as are the products of British agriculture are produced in all other countries under a peasant organization. Even in the grain-growing prairies of Canada and on the dairy farms of New Zealand, where socially the term "peasant" is inapplicable, the farming system is that of one-man units, and hired labour is proportionately small or it occurs only as seasonal labour. In England, the proportion of wage-labourers engaged in agriculture to farmers is three to one; in the United States, the proportion is one to three. In Britain, the wages and hours of hired agricultural labour are regulated under statute. The peasant farmers of Europe and the family farmers of the New World have no guaranteed wage, nor are their hours of labour limited.

The effect of this fundamental difference in industrial organization has been to make the British farmer, operating as he does in a country dependent upon export trade, peculiarly vulnerable. He has certain natural advantages of soil and climate and nearness to his market, but whenever increasing production or declining purchasing power has reduced world prices to the point at which these natural advantages vanish, the peasant or the family farmer can continue to produce by lowering his standard of living, whereas public opinion in Britain, as expressed in social legislation, calls for the maintenance and not the reduction of the farm worker's wages.

This is the situation which British agriculture has had to face since the turn of the economic tide. And as other importing countries, faced, if less acutely, with the same situation, met it

by increased and increasing tariffs, Britain became more and more the market for the surplus agricultural production of all the world, thus aggravating the already severe depression of the British farmer.

Nor were these the only causes of the farmer's difficulties. Some countries in which agriculture was organized, in part, to supply the British market, found that prices began to touch levels at which production, cheap as it was, could not continue, and systems of export bounties were arranged, under which, by means of levies on the home consumer, the producer for export might be subsidized. New Zealand butter, for example, is sold in England at prices far below those paid by consumers in New Zealand itself; it is asserted, indeed, that if New Zealand butter bought in London could be re-shipped, there would be a handsome profit on the transaction. French flour, too, has been sold recently in England at prices about one-third of those which the French housewife must pay.

A situation so abnormal could not be prolonged indefinitely; on the other hand, in the world crisis, it might last long enough to bring disaster of the first magnitude to British agriculture. And so the Labour administration first, and then the National Government, took measures for its protection, both particular and general.

Particular measures, of which the Wheat Act, 1932, is the most important, are dealt with later. The general measures taken were the Agricultural Marketing Act, 1931, the Import Duties Act, 1932, and the Agricultural Marketing Acts, 1933.

The Agricultural Marketing Act, 1931, was designed to help farmers by facilitating combination for the sale of products. The inefficiency and wastefulness of disorganized sale by a multitude of producers, individually, had long been recognized. Grading, bulking, economic transport, were practically impossible, and for the great majority of producers there was no such thing as a market intelligence service. Many attempts had been made to overcome this economic weakness of British agriculture by voluntary organizations of farmers. Societies for the grading, packing and sale of eggs, for the sale of fruit and vegetables; factories to make cheese, butter and bacon: these types of

co-operative organization have been tried in many parts of the country during the past thirty years, and failed, almost every one of them, through bad management and disloyalty. A society for the sale of hops, with all the experience of ten years' control behind it and the support of 90 per cent of the growers, was wound up in less than three years, and the largest milk-selling combine in the country is founded partly upon the wreckage of farmers' co-operative creameries.

The Act gave power to not less than two-thirds of the producers of any agricultural commodity to prepare a scheme for the marketing of that commodity, and if the scheme received the approval of Parliament, it then applied to all the producers of the commodity. In other words, a minority could no longer upset the plans of a majority of producers desirous of joining together to organize the sale of their product.

Briefly, the idea behind the Act was that efficient marketing, with consequent reduction of costs, would go a long way to improve the financial position of farming. But farmers did not like the Act; they wanted protection. Moreover, latent sympathy for the putative minorities led to opposition on the ground that control of home production should not be enforced unless accompanied by control of imports. And so only one marketing scheme was prepared and operated under the Act of 1931, a scheme for the marketing of hops, to which the farmers' objection did not apply, for the hop industry was already heavily protected.

Under the National Government, the farmers' point was conceded, and the Agricultural Marketing Act, 1933, was passed, not to repeal but to supplement the Act of 1931 by giving powers to the Administration to regulate the import of any commodity for which a marketing scheme had been prepared or for which a marketing scheme appeared impossible in the absence of control of imports.

Another very important addition to the powers of producers organized for marketing was that which gave them control, also, of the volume of home production. Under the two Acts, therefore, there is now the possibility of quantitative regulation, both of the amount of home production and the amount of import of any agricultural commodity.

Besides the help given by the Agricultural Marketing Acts, support to home agriculture is given under another general Act, the Import Duties Act, 1932, the purposes of which are (1) to restrict imports; (2) to provide a remedy where a foreign country discriminates against British producers; (3) to increase the public revenue.

This Act has wide applications. The farming industry has benefited mainly in its horticultural branches, by the imposition of tariffs on many fruits, vegetables and flowers. There is, however, another side to the picture, for various import duties have been imposed, under the Act, on farmers' requisites of foreign origin. Foreign oats, for example, are heavily taxed, certain artificial manures, and all farm implements and machinery of foreign manufacture.

The course of events arising out of the world crisis, affecting the more important agricultural products of Britain, is presented in the following pages.

AGRICULTURE—(*a*) GRAIN AND OTHER CROPS

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I. WHEAT

The Situation before 1929

In Britain, the wheat situation has long been dominated by the world position. Indeed, since the seventies, European prices and production have been influenced more and more by the steadily increasing export from the New World and from Russia. Prior to that date, the principle of free trade was generally recognized in the tariff policies of the more important countries, but the subsequent fall in prices led France, Germany and Italy to the adoption of moderate tariffs in the deliberate attempt to sustain their own corn-growing. In England, and some of the smaller countries such as Holland, Belgium and Denmark, there was no change in the fiscal policy, and agriculture in those countries had to be developed on the assumption that wheat prices would remain low, and so, until the time of the war, they did. The climax of the decline in price was reached in 1894, and by that time Britain had reduced its area under wheat by 981,476 acres, or 33·7 per cent less than the area under cultivation in 1880. In the more important continental countries, prices were maintained at a higher level than in Britain by the imposition of what seemed, in those days, high tariffs, though the highest of them, about 2s. per bushel on imports into Spain and Portugal, seems low by comparison with the rate of about 6s. per bushel imposed by Germany to-day.

From 1895 onwards for twenty years, the world wheat position was fairly stable. The fall in prices had stimulated consumption, both for bread and for stock feeding, and at the same time shipments to non-European countries more than doubled. There seemed to be an outlet for wheat in the rice-consuming countries, particularly in China, whenever wheat was cheap or rice was dear. Surplus stocks, the accumulation of which caused the heavy fall in prices in the early 'nineties, were then a new phenomenon, but though they have persisted from that time onwards, it may be said that so long as they were the product of Nature,

unassisted by State aid to producers or by control of distribution, they never became serious, and it was not until the economic crisis and the exceptional conditions for which it is responsible both in production and absorption, that the carry-over has become something of a menace. It is calculated that the surplus at the end of the cereal year 1933 was three times as large as any surplus in the 'nineties.

The exceptional conditions controlling production and prices which prevailed from 1914, reached the peak point in the cereal year 1920/21. But the fall in the world market which followed was due mainly to monetary influences. It was not until 1923 that heavy surplus production became a factor, and this was eliminated almost immediately by the short harvests of the next two years. Then came the year 1928, which marks the beginning of the present disastrous position. Both in the United States and in Argentina, exceptional acreages had been sown, and exceptional growing conditions all over the world led to bumper yields. The world crop of 1928 was the largest ever harvested, and it followed a big crop in 1927 from which a liberal carry-over remained.

Under natural conditions, the situation might have been expected to adjust itself. Just as the bumper crop of 1923 was succeeded by two years of shortage, so the record harvest of 1928 was followed by a world wheat crop of 1929 which showed a reduction of some 500,000,000 bushels. But whereas the short harvest of 1924 was associated with a period of economic improvement, the short crop of 1929 met the beginning of an economic depression. The contraction of overseas markets reduced the purchasing power of the wheat importing countries. There were large stocks of cereals in Europe and, to aggravate the situation, the principal wheat importing states introduced import restrictions or raised their tariffs substantially. Thus, the reduction of the big carry-over was slight.

In the countries of origin, there was the same unwillingness to face the situation. In Canada, the Wheat Pool kept off the market, with the only result that the later Argentine crop was easily absorbed and the Canadian stocks accumulated, and in the

United States the Federal Farm Board attempted stabilization operations without conspicuous success.

Events since 1929

1930 was another year of abnormal production, which to a large extent was the direct outcome of national policies devised to protect farmers from low prices consequent on the natural bounty of 1928. Continental wheat growers had been encouraged to plant more of a crop of which the supplies were already excessive, by protective policies. In Australia, growers were encouraged by the official effort to establish a guaranteed price, and Government action in Russia, which had been practically a negligible factor in the grain market since the War, favoured a wheat policy the results of which were to launch more than 100,000,000 bushels on to a world market already saturated. In the interests of their own producers, Germany trebled, France doubled and Italy nearly doubled their import duties in 1930. Russia, in urgent need of foreign credits, forced sales to the uttermost.

To make the situation worse, a steadying influence in the person of the private holder of wheat had almost disappeared by this time. As prices fell, both his ability to buy wheat and the chance of making a profit from his purchases alike declined. In short, stabilization measures in America made the Government virtually the only holder of wheat, and by the middle of 1931 the Grain Stabilization Corporation was holding 257,000,000 bushels. The surplus position was intensified, and heavy exports to China and the partial failure of the maize crop in the United States, consequent on drought, did little to reduce it, and at the end of the cereal year 1931, the world wheat stocks stood at the record figure of 900,000,000 bushels.

The year 1932 brought very little relief. The general economic depression was at its worst, and European importing countries drew upon their own increased supplies and accumulated reserves. The result was a slight increase in the American carry-over, but a probable reduction of some 50,000,000 bushels in total world supplies. The stocks, however, had got into rather different hands, for the Grain Stabilization Corporation had got

rid of more than half its holding, and much of the surplus was now held by American farmers and speculators.

In this year, the British Government passed the Wheat Act, providing a subsidy to British growers.

The statistical position showed little change in 1933. On the other hand, there were important differences in other directions. Production in Europe varied, for while France and Germany had experienced magnificent crops, wheat was very short in the Danube basin and in Russia. The United States, too, was short, but Canada had a record acreage and crop, and there were big crops in Australia. The decline in European demand continued, and although there were still heavy shipments to China, the carry-over rose to a new peak.

In August, 1933, was concluded the International Wheat Agreement, as a result of a number of discussions between wheat exporting and importing countries, which led up to the International Wheat Conference. The Agreement includes, first of all, undertakings by the principal exporting countries to bring about the limitation of total exports and to reduce the acreage under wheat in the crop years 1933/34 and 1934/35. In the second place, tariff barriers are to be lowered when the world price of wheat rises to a certain figure, and in the meantime, importing countries are not to develop their domestic policies "in such a way as to frustrate the efforts which the exporting countries are making, mutually, to restore the price of wheat to a remunerative level." As the price fixed is equivalent to wheat at about 32s. 10d. per quarter, it may be some time before the agreement to lower tariffs and other barriers to trade is likely to operate.

The Conference decided to set up a Wheat Advisory Committee, representative of the countries that were parties to the Agreement, to watch its workings. It met from time to time in 1933 and in 1934, generally to review the situation and to find a way of getting agreement for the reduction of acreage. The European crop harvested in 1933 was phenomenal, and with the large carry-over from previous crops in North America, the total world stocks on 1st August, 1934, amounted to about 1,140,000,000 bushels, as compared with 1,120,000,000 bushels at the same

date in 1933, and average August stocks during the years 1922–28 of 635,000,000 bushels.

The European crop harvested in 1934 is estimated at a moderate figure, and the severe drought in the United States and smaller crop estimates for Canada and Australia should lead to a substantial reduction of surplus stocks before August, 1935. But taking the 1922/28 average figure as an index, they must be expected still to be far above normal.

The efforts to secure reduction of acreage by the International Wheat Agreement had a partial success. There was no important change in the acreage under crop in the importing countries, several of which, indeed, increased their acreage, as in Britain, which stands first with a 6 per cent increase. In the exporting countries, however, the reductions secured range from 1 per cent in Jugo-Slavia to over 15 per cent in Australia.

The Wheat Advisory Committee is continuing its discussions at the present time on the allocation of export quotas for the cereal year 1934/5. The present Wheat Agreement expires at the end of that time.

The British Wheat Policy

Turning, now, to consider the course of the wheat industry in Britain, it will be sufficient for the present purpose to go back to 1920. In this year was passed the Agriculture Act, which established for the first time (apart from wartime emergency legislation), the principle of guaranteed prices for home-grown wheat, based upon ascertained costs of production. The Act was repealed within a year, because of the immensity of the financial burden which, it was immediately apparent, would be put upon the Treasury. Farmers in the corn-growing districts felt that they had been badly let down, and they never ceased to press for some other measure of security for their industry. The means proposed were various, but the one first adopted as an official policy was that by which a definite proportion of the flour used in this country was to be made from home-grown wheat. This was announced as the policy of the Conservative Party towards the end of 1930. It recognized that to raise prices by tariffs would impose a heavy charge upon the consumer if it were to

be effective. On the other hand, an assured market for their contribution, relatively small, to the total national wheat requirement, at a guaranteed price, would give British wheat growers the help they wanted in the least onerous way.

Wheat prices continued to fall after the cereal year 1929/30, and following the financial crisis in September, 1931, a Bill was introduced by the National Government to provide a quota system for home-grown wheat of millable quality, which would secure to producers a certain market at a certain figure, subject to a statutory maximum which was introduced to prevent the expansion of wheat growing to undesirable lengths. Under the name of the Wheat Act, the Bill became law in May, 1932.

Under the provisions of the Act, wheat growers were free to sell their wheat when and to whom they chose, but to qualify for the bonus they had to register themselves, and certified returns of sales had to be forwarded to the Wheat Commission set up under the Act. At the end of the year, the average price of all sales was to be computed by the Commission, and if this were less than the standard price of 10s. a cwt. fixed by the Act, the difference represented the price deficit, and each grower was to receive a deficiency payment, being the price deficit multiplied by the quantity of his sales. Those who had sold their wheat at more than the ascertained average price thus receive a total price which exceeds the standard price, while those who sold for less do not get so much.

The fund from which these deficiency payments were to be made was to be accumulated by a levy on all flour delivered for consumption in the United Kingdom, and lest there should be an undue expansion of wheat production, under the influence of the standard price, the Act provided that the full deficiency payment should not be made on more than 27,000,000 hundredweight a year. In any year in which production exceeded this amount, the deficiency payment, consequently, would be reduced *pro rata*.

The wheat crop of 1932 was the first to be affected by the Act, and it was estimated at 19,800,000 hundredweight. So satisfactory was the standard price by contrast with farmers' prices for unsubsidized products, that the wheat acreage expanded

rapidly and the yield of millable wheat passed the maximum almost immediately. On the 1933 harvest, only $\frac{2}{20}$ths of the full deficiency payment was received by growers.

The wheat policy of the British Government has been much criticized. Farmers for the most part hailed it with acclaim, and the price of imported wheat, which forms some four-fifths of the total supply, has ruled so low that consumers have hardly realized the tax placed upon them to meet the deficiency payments. On the other hand, there are those who maintain that the adoption of a wheat policy in this country is a mistake, and that state-aid should be given, rather, to commodities which bulk larger in the farmers' sales, in the production of which this country is subject to overseas competition less fierce than that which it must always encounter from the prairie wheat growers. And the wisdom of intensifying the production of a commodity with which the world is already glutted is doubted by many. It is probable, however, that the Wheat Act took no account of these things, and that it represents no more than a decision by the Government of the day to find a way of helping a much depressed branch of home agriculture.

The acreage under wheat, which was just 1,200,000 acres in 1931, rose to just 1,760,000 acres in 1934, an increase of 46 per cent in three years.

II. BARLEY

It is not necessary to trace the history of barley in that degree of detail given to the history of wheat. The world situation shows for barley, also, that the problem is one of finding markets for increasing surpluses. The barley crop has two main uses—malting and stock-feeding—and the adoption of prohibition in the United States, the imposition of high taxation on beer and spirits in Great Britain, combined with the reduction of consumers' purchasing power more recently, have militated against this crop passing freely into consumption.

In common with other grains, the production of barley in Great Britain has steadily declined in the past fifty years. Between the years 1900 and 1913 the acreage was reduced by 20 per cent, and since 1921 there has been a further reduction of the same amount. Most barley is grown as a spring crop. Under

the influence of good quality and a high price, in 1933, and expectations of an improvement in the American demand for her own product, the barley acreage increased by more than 14 per cent in the harvest year of 1934.

Rather more than half the national requirements for all purposes are imported. For a long time, growers of malting barley have agitated for an import duty on foreign supplies, and it should be noted that the Agricultural Tribunal of Investigation recommended this policy. It was contended that no hardship would result, as the production of malting barley in this country usually exceeds the demand. Moreover, its only use was in brewing, and beer is not regarded as an essential food. Administrative difficulties prevented the adoption of the recommendation, but following the change in the fiscal policy of the country after the economic crisis and embodied in the Import Duties Act, 1932, all barley was subjected to a 10 per cent *ad valorem* duty in that year. In August, 1933, a further duty of 10 per cent was placed on pearled and pot barley, but other barley products were exempted.

III. OATS

In England, oats are grown almost entirely as a farm food, but in Scotland, a considerable proportion of the crop is milled for human consumption. Great Britain is more largely self-sufficing in oats than in wheat or barley, the home production in 1933, for example, accounting for more than 87 per cent of total supplies. In that year the acreage grown was the smallest on record, and the crop for 1934 is estimated to show a further reduction of more than 6 per cent. Imports also have declined, the total for 1933 showing a decline of 33 per cent on the average of the years 1929–31. An analysis of the sources of origin, however, shows that Canadian oats have been coming into the country in steadily increasing quantities. Argentine supplies account for nearly half the imports.

The price collapse in oats, following the crisis, has been severe, arising more from slackness of demand than from increasing supply. Recently, the import of subsidized German oats has had a most depressing effect upon the home market.

Under the Import Duties Act, 1932, oats were subject to the general 10 per cent *ad valorem* tax, and this was doubled in August, 1933. By January, 1934, it was evident that even this high rate of tax had failed to restrict the importation of foreign oats and oat products, which were being offered at prices actually lower than before the imposition of the additional duty. On the recommendation of the Import Duties Advisory Committee, an order was made under the Act substituting specific duties of 3s. a cwt. on oats and 7s. 6d. a cwt. on oat products for the *ad valorem* duties.

IV. SUGAR BEET

Nothing is more remarkable in the recent history of British Agriculture than the position attained by sugar beet. Prior to 1925, the acreage under this crop was so small as to have no place in the annual Agricultural Statistics. In 1934, the crop was estimated to cover nearly 400,000 acres, and the sugar produced from it amounts to something like 25 per cent of the nation's requirements. There had been enthusiasts for the introduction of sugar beet into British rural economy for many years, and one or two factories had been built, none of which operated successfully, notwithstanding encouragement received from the Government through preference in the excise duties on sugar. In 1925 was passed the British Sugar (Subsidy) Act, under which a diminishing subsidy was guaranteed to manufacturers of sugar from home-grown beet for a period of ten years, during which it was expected that the industry would establish itself and thereafter be strong enough to stand alone. The expectations of the Act were realized to the extent that experience in growing the crop has enabled farmers to reduce their production costs to meet the periodic fall in beet prices at the factories, consequent on the periodic fall in the rate of subsidy. They were falsified in that reductions in costs have not sufficed to enable the industry to meet world competition at the prevailing price of sugar.

The sugar beet industry all over the Continent is a subsidized industry, and the conditions under which the crop has been established in this country are so artificial that it is difficult to trace much connection between it and the economic crisis.

Through all the years since 1929 the crop has been a profitable one, and the area devoted to it has expanded steadily.

The Act of 1925 under which the subsidy is secured, expired at the close of 1934. Up to date it has cost the Treasury about £40,000,000. It was announced by the Minister of Agriculture in July, 1933, that it would be extended for a further period of one year, to give the industry an opportunity of formulating a scheme for its future. A draft scheme has been prepared by agricultural and manufacturing interests, under the Agricultural Marketing Acts, but it has not yet received Parliamentary sanction.

V. POTATOES

For practical purposes, Britain is self-supporting in potatoes. There are imports both of earlies and of maincrop potatoes, but the two combined do not amount to 5 per cent of the total available supplies, and a large part of the import of earlies are for a semi-luxury trade which hardly competes with the home output.

Before the crisis, supplies fluctuated from year to year between fairly wide limits, and prices moved inversely. Fluctuations arise partly from variations in the acreage planted, and partly from the variations in yield, which may differ widely from season to season. The keeping qualities of potatoes are also variable from season to season, and market supplies are not always commensurate with the crop. It is a product about which there has always been a good deal of instability, a season of high prices inducing heavier plantings, with its inevitable effect upon yields and prices in the following season.

The possibility of stabilizing the market was considered by the Agricultural Tribunal of Investigation, which reported, in 1923, in favour of a prohibition of imports whenever the market prices reached a certain low level. Imports being relatively unimportant, their effect on prices should not be considerable, but coming as they often did on a market already adequately supplied, their effect on prices could be out of all proportion to their volume. There was always the psychological factor, too, which could be used effectively to lower prices.

No action was taken by the Government on the recommendations of the Agricultural Tribunal, but it is interesting to note that a Private Member's Bill was introduced into the House in 1933, which proposed the same action, the limit of price being put at £4 a ton. The measure was subsequently withdrawn. Taking one year with another, regular potato growers got a fair return, fluctuations in prices notwithstanding.

Following the economic crisis in this country, and the steps taken by Government to protect various industries, tariff duties were imposed, first of all, on imports of early potatoes under the Horticultural Products (Emergency Customs Duties) Act, 1931, and under the Import Duties Act, 1932. Empire countries were exempted, with the exception of the Irish Free State, from the middle of November, 1932. As to maincrop potatoes, imports from France were prohibited owing to the danger of infection from the Colorado Beetle in 1933. Otherwise, they were first subject to duty under the Import Duties Act, in 1932. An *ad valorem* duty was imposed, which was altered later for a duty per ton, the amount of which has fluctuated, with the season of the year, from nothing up to £4 5s. a ton.

In the later months of 1933, further aid to growers was given by voluntary agreements with exporting countries, principally the Netherlands, Belgium and the Irish Free State, for the restriction of their potato shipments to England. The effect, however, was slight, for the low prices prevailing in this country and the import duty of £1 a ton robbed this market of much of its attraction.

So much for action by the State to aid potato growers in the crisis. The industry, however, has taken steps to help itself, under the provisions of the Agricultural Marketing Acts, by organizing a Potato Marketing Scheme. The Agricultural Marketing Acts, 1931 and 1933, were the direct outcome of the agricultural crisis. Considering them together, they were passed to enable a two-thirds majority of the producers of any commodity to frame regulations controlling the production and sale of the commodity, which should be binding on all producers. At the same time, the Acts empowered the Minister to make regulations controlling the import of any commodity for which a Marketing

Scheme had been adopted or was contemplated. By December, 1933, potato growers had evolved their marketing scheme under the Acts. No direct control of price was contemplated, but the stabilization of output, at the quantity required by the consumer and, consequently, of price, was to be achieved by a growers' quota. Seasonal variations in supply were to be controlled by the simple expedient of fixing the size of the potato that may be sold in any year. All potatoes are passed over a riddle to remove dirt and small potatoes, and growers may not sell, nor may authorized distributors buy, potatoes smaller than that of the size of the riddle agreed upon.

The Potato Marketing Scheme was authorized by Parliament, and a Potato Marketing Board was set up to administer it early in 1934. All growers have to be registered, and the quota allotted to each is his average acreage during the previous three seasons. Extensions of acreage beyond this amount, and admission of new growers, are to be sanctioned only upon the payment of a fine of £5 an acre.

The application of the growers' quota has reduced the acreage planted with potatoes in England and Wales, in 1934, by some 31,000 acres, or 6 per cent, by contrast with 1933.

VI. HOPS

Hops are of minor importance in rural industry, but their recent economic history is of considerable interest. They were always a gambling crop, yields and prices fluctuating violently from season to season. They represent a highly intensive form of agriculture, and they necessitate the investment of more permanent capital than any other branch of the industry, except glass culture.

Their recent history begins with the war, when the reduction of brewing and of the demand for hops reduced growers to a parlous state, and the Government set up a Hop Control to regulate production, and to fix remunerative prices. At the growers' request and with the consent of the brewers, the control was carried on until 1925, to enable the industry to get back to normal conditions. On the expiration of control, a number

representing more than 90 per cent of the growers organized themselves as English Hop Growers, Ltd., to continue joint sale, but some over-production in the first year necessitated the destruction of part of the crop of these growers, while those who stood aside effected a complete clearance to the brewer. Secessions from the Society began, and an organization which should have been the farmers' model, came to an untimely end in 1930.

But the lesson had been learnt, and the hop-growers were the first and only group to organize a marketing scheme under the Agricultural Marketing Act, 1931. Under the shelter of a tariff equivalent to a 50 per cent *ad valorem* duty, and a demand for hops from America gone wet, the Hops Marketing Board were able to fix very high prices for English hops, and to prevent the great extension of acreage and consequent over-production which these prices would certainly have induced, the Board applied to Parliament, in July, 1934, for powers to amend their marketing scheme. Briefly, the amendment proposed to allot each grower a quota based on his average production during the five seasons 1928–32, and to allot no new quotas until the demand requires it.

This is the most extreme form of control of agriculture so far attempted under any of the agricultural legislation arising out of the economic crisis.

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AGRICULTURE—(*b*) THE MILK INDUSTRY

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A REVIEW OF THE MILK INDUSTRY

MILK production is one of the most important branches of British agriculture and is surpassed only by livestock. Economy and efficiency in production have been consistently studied since the war and marked improvements have been effected. Attention to breeding and feeding has resulted in a general rise in the yield of milk per cow, and the application of more scientific methods to the handling of the commodity has been conducive to the placing of a better article in the hands of the consumer. Attempts have also been made to reduce the number of tubercular cattle in the country with a view to making milk a safer commodity. The urgent need of improving the marketing technique has also been realized. Producers have attempted to combine in order to exert as much influence as possible upon milk prices with a view to meeting more effectively the distributive organization with which they had to deal.

The total quantity of milk produced in England and Wales has been increasing. The Census of Production figures collected by the Ministry of Agriculture and Fisheries during 1924–25 indicate that the net quantity produced (i.e. the total production less the quantity fed to livestock on farms) was 1,117,000,000 gallons. On this basis the average yield of milk per cow for the year would be 416 gallons. During 1930–31 the net production was estimated to be 1,263,000,000 gallons; this shows an increase of 13 per cent over the 1924–25 figure. The average yield per cow in 1930–31 was calculated to be 462 gallons—an increase of 11 per cent.

On many farms a certain proportion of the milk produced is not disposed of in liquid form, as it is converted into various dairy products such as butter and cheese. The quantity of milk leaving farms, therefore, was in 1924–25 estimated at 818,000,000 gallons, and in 1930–31 at 949,000,000 gallons—an increase of 16 per cent.

This increase in production has been due to increase in yield

per cow and in the number of cows kept. In 1922 the number in England and Wales stood at 2,522,000; by 1927 it had increased to 2,791,000 but by 1931 it had fallen to 2,790,000; the number in 1932, viz. 2,871,000, was the highest ever recorded. There have been no marked changes in the geographical distribution of dairy herds as the increase in numbers has been fairly evenly spread over the milk producing counties. But farmers have been obliged to adopt a system of farming which enables them to meet a steady demand throughout the year, and there has been an attempt to produce a greater proportion of total supplies during the winter months than was formerly the case.

TABLE I

IMPORTS. ANNUAL AVERAGE[1] 1922–31

	Cwt.	Value	Gallons of Whole Milk Equivalent
		£	
Liquid Milk Whole	—	34,294	655,078
Condensed Whole Milk Sweetened	286,933	806,445	7,804,572
Condensed Whole Milk Unsweetened	383,170	1,039,403	10,422,232
Skimmed Milk	1,736,848	3,221,693	55,752,824
Milk Powder Sweetened	4,647	28,258	364,789
Milk Powder Unsweetened	156,608	396,495	18,573,696
Other Kinds of Preserved Milk	22,041	143,172	1,864,635
TOTAL		5,669,760	95,437,826

[1] See Appendix for yearly figures.

Overseas competition in the liquid milk market is not serious; during 1924–25 imports of fresh milk amounted to only 0·06 per cent of the milk sold off farms in this country and during 1930–31 to only 0·07 per cent. Imports of tinned skimmed milk showed a 67 per cent increase between 1922 and 1931, and in the latter year exceeded 2,000,000 cwt. Overseas supplies of tinned whole milk (unsweetened) have increased by 94 per cent in the same period, but imports of the sweetened variety have shown a downward tendency. In terms of liquid milk equivalent, however, imports in 1930–31 amounted to 13 per cent of the quantity sold off farms in this country.

CONSUMPTION. There is a shortage of reliable information on the subject of milk consumption in this country. Calculations of quantities consumed per head of population have been made periodically but such results are of very limited value, as they are obtained by dividing the total estimated quantity of milk going into consumption by the number of persons in the country. The Local Food Committees collected some data in 1918, and in that year estimated consumption at 0·25 of a pint per day per person. The Ministry of Agriculture and Fisheries estimated that 600,000,000 gallons of milk were consumed in Great Britain in 1921—this represented a *per capita* consumption of 0·31 of a pint per day; in 1922 total consumption was estimated as between 650,000,000 and 700,000,000 gallons which represented between 0·33 and 0·36 of a pint a day for each person. Another investigation into the consumption of milk in several towns and cities shows that on the average it is just under 0·33 of a pint per day, the predominant range being between 0·25 and 0·40 of a pint. Other inquiries yielded results of a somewhat similar nature; one gives a daily figure of 0·28 of a pint, whilst another places daily consumption at 0·44 of a pint per person.

In a recent investigation conducted in Cardiff, consumers were grouped by general standards and conditions of living, and it was found that consumption in the good middle class districts amounted to 0·55 of a pint per day; in the good working class districts it was 0·27 of a pint; it fell off considerably as one passed to the poor areas, and amongst the poor working class people it only equalled 0·16 of a pint per day. Further, in the poorer areas it was found that only 75 per cent of the houses were regular buyers of fresh milk.

Although the information on which judgment may be based is quite meagre, it is probable that consumption per head showed tendency to rise up to 1931, and total consumption was increasing. But milk producers at some times have been concerned about the competition of "processed" milks, largely imported, with fresh milk produced in this country. Table I shows for a period of ten years the approximate amounts of imports of these competing articles. Milk processed or manufactured in this country, although competing with fresh milk for consumers' demand,

does not increase competition in the total market for milk because the processing relieves the markets, for other milk products, of pressure which would arise from the quantity of milk which is processed for subsequent sale as milk in other forms.

THE QUALITY OF MILK. In view of the low consumption per head of the population in this country, compared with some others, attempts have been made to raise the standards of cleanliness with the object of stimulating consumption. During the last decade or so many measures have been taken with a view to encouraging improvement in the quality of milk. The Milk and Dairies (Amendment) Act was passed in 1922, and under it the Minister of Health made the Milk Special Designations Order, 1923. This Order prescribes conditions for the following special grades of milk: (*a*) "Certified," (*b*) "Grade A (Tuberculin Tested)," and (*c*) "Grade A." The Order also recognizes the use of designation "Pasteurized" in respect of "Grade A" and non-graded milk that has been heat-treated in accordance with specified conditions. Licences are granted by the Ministry of Health and by local authorities to persons who wish to sell milk described as being of these grades or as "Pasteurized."

The Tuberculin Order was made by the Minister of Agriculture and Fisheries in 1925, under the Diseases of Animals Acts, 1894 and 1925. This order enables a local authority on the report of a veterinary inspector to order the slaughter of cows giving tuberculous milk or appearing to be suffering from tuberculosis of the udder, and it provides for a sliding scale of compensation to the owners. The order is administered by the County Councils, County Boroughs, and certain other boroughs.

Under the Milk and Dairies (Consolidation) Act, 1915, the Minister of Health with the concurrence of the Minister of Agriculture and Fisheries made the Milk and Dairies Order in 1926. This is administered partly by local Sanitary Authorities and partly by the County Councils and County Boroughs. The Sanitary Authority is responsible for the registration of all persons carrying on the trade of cowkeeper, or dairyman, and of all farms or other premises used as dairies. It also administers the elaborate provisions intended to secure the cleanliness of dairies, cowsheds,

cows and persons handling milk as well as provisions for preventing the milk itself from becoming contaminated or infected. Wide powers are given to the Medical Officers of Health of the Registering Authority to prevent the spread of infectious disease; they may, for instance, prohibit the sale of milk from suspected premises, or prohibit a suspected individual from taking part in the production, distribution or storage of milk.

There is, however, considerable lack of uniformity in the administration of the Order. In some counties there is regular veterinary inspection at varying intervals, whereas in others, visits are only paid to places which are suspected to be producing contaminated milk.

While the milk supply of the country has shown considerable improvement during the last decade the rate of change is not so rapid as could be desired on grounds of public health. There is need of tightening up administration of the regulations in force, in order that they may be more universally effective for their purposes. There is yet much to be done before tubercular cattle are eradicated and before the conditions under which milk is produced are satisfactory.

DETERMINATION OF PRICES. Since October, 1922, the liquid milk market of this country has been influenced to a marked degree by the annual agreements made between producers and distributors. A system of collective bargaining was established in 1922 and collective agreements were made in each year up to 1932, extending to October, 1933. Prices and conditions of sales were negotiated annually by a council known as the Permanent Joint Milk Committee, composed of representatives of producers, distributors and manufacturers of milk. Producers were represented through the medium of the N.F.U., whilst the distributors were represented by members of the various associations formed to promote their business interests. The National Federation of Dairymen's Associations is included in this category; it is composed of local associations made up of large and small milk distributors, together with the large wholesaling concerns. Another body sending delegates was the Amalgamated Master Dairymen's Association. This is composed largely of London retailers who purchase their requirements of milk

direct from farmers. Manufacturing interests were represented by members of the National Association of Creamery Proprietors and the Wholesale Dairymen's Incorporated. During 1929 the industrial co-operative societies established a body known as the National Co-operative Milk Trade Association to advance their interests in the milk trade, and since 1929 delegates of this association were present on the Permanent Joint Milk Committee. This Permanent Joint Milk Committee and Area Joint Committees have since 1922 negotiated and fixed the prices of milk annually. Throughout the period cognizance was taken of the fact that the market value of milk depends upon methods of utilization, and endeavours were made to bring this to the notice of farmers through the prices they received.

The first scheme set up by the Committee introduced the "basic surplus" principle; each producer was presumed to receive a higher price for a certain basic quantity and lower values for the remainder. The basic quantity was presumed to be related to the quantity sold for direct consumption and the remainder to the quantity to be manufactured. It was realized that during the winter months production approximated closely to the requirements of the liquid milk market. Average daily deliveries between November and February (inclusive) were therefore taken as the basic quantity, and throughout the year higher prices were payable on a supply proportional to that quantity, and amounts in excess of the "standard quantity" were defined as manufacturing milk and paid for at lower prices. It was agreed that the price of manufacturing milk should be assessed each month on the basis of the average quoted prices of Canadian and New Zealand cheese on the London Provision Exchange. The scheme sought to secure for the producer, who sold milk on contract, liquid milk prices for quantities actually going into liquid consumption, and for supplies in excess of this quantity a price in agreement with their values for conversion into other products. One of the chief aims of the scheme was to assure the producers who supplied fairly uniform quantities throughout the year a higher average price than that paid to farmers whose supplies showed wide seasonal variations. The scheme did not "fix" retail prices but much discussion centred round distributors'

margins. Between 1922 and 1928 this scheme was in operation with only minor modifications. Slight alterations were made in the method of determining the quantity on which "liquid" milk prices were to be paid, but on the whole the principle of stimulating winter production and penalizing farmers who only offered supplies in other seasons was observed.

Between 1929 and 1933 the method of determining the proportion of a farmer's supply on which liquid milk prices were payable was changed; producers were asked to "declare" the daily quantity they would supply throughout the contract year. Prices payable were then determined according to whether contracts were made on a 10, 20 or 50 per cent variation from the "declared quantity." After 1930 some modifications were made in contracts relative to the percentage variation in supplies, but the principle of declaring quantities was retained until the 1932–33 agreement was made.

In general it may be said that producers were at a disadvantage in the negotiations. They were represented through the National Farmers' Union, but a large proportion of milk producers are not members of the Union and consequently delegates were handicapped in their work. Successive contracts resulted in a gradual worsening of the producers' position, and it appears that the prices for 1931–32 were, on the whole, too low. By November, 1931, a shortage of milk for the liquid milk market had become apparent, and to meet this situation a certain amount of milk was imported from European countries as well as from the Irish Free State. Prices were immediately raised in order to encourage home production. Negotiations in 1932 resulted in a deadlock and a "hold-up" of supplies was threatened, but this was averted by a last minute compromise.

Although producers' contract prices have been mutually agreed over the last decade it would be erroneous to infer that they have been universally observed. Not only many producers but a large number of distributors had no connection with the negotiating bodies, whilst the agreements made were not enforceable. Individual contracts between producers and distributors were universally common, and it is probable that in a considerable proportion of cases the actual prices and conditions showed fairly

wide variation from the agreed standards. Yet it cannot be said that the negotiated prices were ignored; in general they formed the basis upon which most agreements were made during the period, and the work of the Permanent Joint Committee served as a valuable guide in subsequent developments.

PRICES. Producers of milk for sale in liquid form enjoyed a period of comparative prosperity up to 1931. Compared with the pre-war level the price of milk has remained consistently above that of most other agricultural commodities; for six years prior to 1931 the average price of milk varied between 60 per cent and 70 per cent above the 1911-13 figure, whereas the agricultural index number was only 46 per cent above the pre-war average during this period. Farmers who were favourably circumstanced with regard to consuming centres or transport facilities were able to dispose of their milk at much higher prices than those who were obliged to manufacture it into butter, cheese, or other products. The liquid milk market of this country enjoys comparative immunity from attack by overseas competitors, and the absence of cheap supplies from abroad enables milk producers to command a relatively higher price for their article than is the case with producers of other commodities. Even the sharp decline in the general price level during the last three years has not been shared to any appreciable degree by the price of milk.

It is true in general, that if the price of a commodity remains for any length of time above the normal, competitors will enter the field and an additional supply will eventually be placed on the market. This increase of supply will result in selling-pressure on the market and a fall in price will follow. This has not been true of milk, however, as there are two almost distinct markets for it in this country (*a*) a liquid market and (*b*) a manufacturing market. High prices in the market for direct consumption have been maintained by (*a*) higher cost due to necessity of raising quality, (*b*) rising appreciation of milk by consumers, (*c*) higher costs of services in distribution. The market for manufacturing milk has been subject to other influences. Although the production of milk has increased in recent years the greater part of the additional supply has been made into butter, cheese, or other dairy products. The prices of these commodities have to a large

extent been determined by the prices at which overseas supplies have been available. Oversea countries supply us with about 89 per cent of our total requirements of butter with the result that the influence of the home produced supply upon the market price has been very small. Imports have been increasing in recent years and prices have touched low levels. Until 1929, however, butter prices compared quite favourably with the agricultural price index, but subsequently the former have fallen far more rapidly than the latter. In 1931 the price of butter stood at only 11 per cent above the pre-war figure, in 1932 it had fallen by another 9 per cent, and by December, 1933, had declined to a position 3 per cent below it.

Although we only produce 23 per cent of our requirements of cheese, imports in recent years have been steadier than those of butter, and in consequence there has not been such continual pressure upon the cheese market. During 1928 and 1929 cheese prices were quite favourable but a sharp decline began in 1930 and this was continued in 1931, but during these years cheese prices did not deviate seriously from the agricultural price index. In the early part of 1932 prices rose sharply owing to the milk shortage which occurred towards the close of 1931. This rise, however, was only temporary, and a decline set in which was continued in 1933, but at the end of 1933 cheese prices stood within 4 points of the agricultural index number.

The production of butter is not invariably carried on by farmers who specialize; on the contrary, it is often manufactured on farms which also produce other commodities for sale. Butter producers therefore do not suffer quite so severely from a fall in prices as some producers of milk, as milk produce forms only a small proportion of their total output. Some cheese-makers are also in the same position, but in other cases the cheese constitutes a high proportion of total output and a fall in the price of this one commodity has a serious effect on revenue. During the last two years, however, the prices of most commodities have fallen so disastrously that even farmers on diversified holdings have experienced difficulties in carrying on their businesses.

In the case of butter low prices during recent years have vastly stimulated consumption. The pre-war consumption of

butter and its chief substitute—margarine—was nearly 21 lb. *per capita*, namely butter 15·8 lb. and margarine 5 lb. Consumption of butter itself fell to a very low level in the late war and early post-war years, but by 1924–27 had risen to 15·4 lb., while margarine had risen to 12·4 lb. or a comparative total of 27·8 lb. Since that period a great change has occurred. Butter consumption reached 21 lb. in 1931 and a slightly higher figure since that year. On the other hand, the market for magarine has been depressed. Practically all the increase in supplies of butter is due to imports. No marked change has occurred in the case of cheese. But the general consumption is now greater *per capita* than in pre-war years—at 9–10 lb. against 8½ lb. The home supplies constituted about one quarter of the total, and remain in about the same proportion, so the greater part of the small increase has been made up of imported supplies. In this connection it is important to note that a great increase in the volume of world trade in butter and cheese has occurred, and that this arises from efficiency movements similar to those noted in connection with milk production in Great Britain.

DUTIES. Dairy products imported from foreign countries are subject to duties under the Import Duties Act, 1932, and the Ottawa Agreement Act, 1932. A duty of 30 per cent *ad valorem* is levied on butter and cream from the Irish Free State under the Special Duties Act, 1932. Imports from other Dominions enter free, and under the Ottawa Agreements the United Kingdom Government cannot impose duties on dairy products arriving from the Dominions for three years. The following duties were in operation on 1st January, 1934.

DUTIES ON IMPORTS OF DAIRY PRODUCTS

UNSWEETENED	FOREIGN
Condensed whole milk	6s. per cwt.
Milk powder	6s. per cwt.
SWEETENED	
Condensed whole milk	5s. per cwt. plus any duty on sugar content
Condensed skim milk	10% *ad valorem* or the duty payable on the sugar content, whichever the larger.
Milk powder	10% *ad valorem* or the duty payable on the sugar content, whichever the larger.
Cream	10% *ad valorem*.
Butter	15s. per cwt.
Cheese	15% *ad valorem*.

Foreign Governments mainly concerned with the export of condensed milk to this country have entered into voluntary agreements with the United Kingdom Government, and as from 1st April, 1934, reductions in our imports of this commodity will be effected. The reductions will be based on the quantities supplied during the same months of the year previous to the introduction of the agreements. As a result imports of condensed skim milk were reduced by 22½ per cent for the quarter ending 30th June, 1934; condensed whole milk and milk powder by 20 per cent and cream by 30 per cent.

MARKETING SCHEME. The position in the markets for dairy produce, combined with the breakdown of the collective agreement for the sale of milk in 1931, brought a demand for improvements in the marketing of milk, and the Agricultural Marketing Act of 1931 provided the legal basis for organization.

This Act is an enabling measure, making provisions for the producers of a commodity to organize themselves for group action in the marketing of their products. To attain this end they must submit a scheme to the Minister of Agriculture, and if such a scheme is approved by both Houses of Parliament and receives the support of 66 per cent of the registered producers of the commodity, passes other necessary stages, and comes into full operation, it is incumbent on all producers of the commodity in the area concerned to comply with the provisions in so far as they have not been exempted.

The organizations contemplated may be national or local, and the constituency will be the producing and not the consuming area. Schemes can only be submitted by producers of the commodity concerned but they may be prepared by others. In 1932 the Ministry of Agriculture, therefore, in accordance with this Act set up an Agricultural Marketing Reorganization Commission for Milk and Milk Products, and charged it with the duty of preparing a scheme applicable in England and Wales for regulating the marketing of milk. In January, 1933, the Report of the Commission was issued and the recommendations made were the basis of a milk marketing scheme which the National Farmers' Union on behalf of producers eventually submitted. This received parliamentary approval in July, and after

successfully passing the other stages came into operation in October, 1933. A somewhat similar scheme came into force in Scotland in December, 1933, and two smaller schemes for Aberdeen and Northern Scotland at later dates.

Under the scheme for England and Wales a Milk Marketing Board has been set up to administer it, whilst the country has been divided into eleven regions. The Board is comprised of twelve members elected from the several regions by the registered producers of milk, and three special members elected in the same way, and two persons co-opted to the Board by the elected members.

In each region a committee is formed whose duty it is to report or make representations to the Board periodically on the operation of the scheme in relation to milk producers in that region and to advise the Board regarding improvements. Members of regional committees are elected by the registered producers of milk in the area. Although these committees have no statutory powers they serve as a connecting link between the Board and the milk producers as, in the administration of the scheme, a certain amount of regional devolution is advantageous.

All producers of milk, except those not keeping more than 4 cows or those who only sell milk to their servants for consumption in their households, must register with the Board. Before the scheme could come into operation a poll was necessary, and it was only producers who had registered that were entitled to vote. A poll is also essential in connection with any proposal for the amendment or revocation of the scheme. No such poll can, however, be taken until the summer of 1935.

Enormous power is placed in the hands of the Board regarding the sale of milk, but at present all the powers at its disposal are not exercised. Since its inception the Board has arranged for the purchase and sale of all the milk leaving the farms except that handled by producer-retailers and that sold by persons exempt from registration. The milk is now sold by producers to distributors and manufacturers under tri-partite contracts, and the Board is a party to all contracts. The scheme also provided that "appointed persons" might act as arbitrators, and these have fixed the price of milk for two contract periods, viz.

October, 1933, to February, 1934, and March, 1934, to September, 1934. As was stated above, the market value of milk depends upon the method of utilization. Higher prices are therefore fixed for milk used for liquid consumption than for that converted into other food products. In view of the fact that on the one hand no person or body is allowed to buy milk from non-exempt producers, and on the other that milk is only available to the trade through one channel, the Board is in a monopolistic position. It follows that the stated prices must be observed whilst it is impossible for milk to be sold into liquid consumption if it has been bought—at a lower price—for manufacture. Wholesalers, retailers and manufacturers of milk are obliged to supply information regarding the method of disposal of the quantities purchased.

Producers who retail their own milk also participate in the scheme; these are licensed by the Board and are obliged to pay a contribution according to the quantity of milk handled or, for small farms, on the number of cows kept.

The accounts of each of the eleven regions are kept separately and are balanced monthly. On the credit side of each regional account would be receipts from all milk sold both for liquid consumption and for manufacture. In addition there would be the contributions of producer-retailers. Further, in some regions a larger proportion of the milk sold goes into liquid consumption than in others, and it is the duty of the Board therefore to credit the accounts of regions where a high percentage of the milk is sold at low prices, with a portion of the proceeds of a levy which is made on all liquid sales. On the debit side of each region's account would appear the appropriate levies and contributions mentioned above and the regional administrative expenditure. The balance of each account is divided by the total quantity of milk sold off farms in the region during the month. The figure thus calculated is the regional pool price and this is payable to all suppliers irrespective of how their milk has been used.

During the year 1933–34 the average price realized by sale of liquid milk was about 13·6 per gallon; the average price for milk for manufacturing purposes (exclusive of the subsidy) proved to be nearly 5d. per gallon. The actual proportions of milk over the year were 74 per cent per "liquid" and 26 per cent

for manufacturing. The average pool price paid to producers was approximately 11·84d. per gallon.

The Board is now investigating the problem of improving the quality of milk and will proceed to register producers who attain certain standards. It is proposed to draw up a list of Accredited Producers, i.e. those who satisfy the Local Public Health Committee regarding health of animals, cleanliness of buildings, methods of handling the milk, etc., on agreed standards. It is intended to pay a certain premium on milk supplied by Accredited Producers in order to compensate them for the extra expense involved and to encourage an improvement in the quality of the supply. The premium will be obtained from the proceeds of a levy on the milk handled by the Board.

The spring and early summer are generally periods of heavy production; during the winter 1933–34 the volume of milk surplus to liquid requirements was a little short of 20 per cent of the total volume of milk sold under contract, but it was anticipated that this would later rise to 40 per cent. Such a situation would depress the monthly prices payable to producers and it was feared that this would do appreciable harm to the industry. The Government accordingly proposed on 22nd February, 1934, that, for the two years beginning 1st April, 1934, the Milk Marketing Board shall be guaranteed, by the Government by means of Exchequer advances, minimum prices per gallon in respect of milk manufactured in factories. For milk made into cheese on farms the Board has to assume responsibility and the same advances are made. The sums advanced are to be repaid during the two years commencing 1st April, 1936 to 31st March, 1938, but any outstanding balance at the latter date will be finally accepted as a charge on public funds.

For the purposes of launching a campaign to secure a purer milk supply the Government will provide from public funds a sum not exceeding £750,000 spread over 4 years—1934–8. The Government is also prepared to contribute from the Exchequer on a pound for pound basis to a milk publicity fund for a period of 2 years. The Government contribution for this purpose will be limited to £500,000 in either year according to the amount contributed by the Boards.

For a full understanding of some parts of the economic position of milk and milk products it is necessary to deal with intricate details of the trade; and, since the advent of rigid organization, with some fairly intricate details of methods of control. On the whole, milk producers have suffered far less than farmers concerned with other major enterprises of farming. The "natural protection" of the liquid milk market, and the conditions of demand for liquid milk, have secured to them relatively favourable conditions. The tendency towards higher consumption of milk products, slight in the case of cheese, but important in the case of butter, has also mitigated the possible effects of increasing supplies. While demand has undoubtedly been stimulated by lower prices this is not always to be expected in markets for foodstuffs, for as in the case of beef demand may fall with falling prices. Behind the tendency towards increasing demand is a rise in consumers' appreciation of dairy produce.

APPENDIX I

INDEX OF PRICES

(1911–13 = 100)

Year	Milk		Butter[1]		Cheese[2]	
	Per Gallon	Index	Per 12 lb.	Index	Per cwt.	Index
	s. d.		*s. d.*		*s. d.*	
1921	1 11	263	29 1	215	126 6	171
1922	1 3⅝	179	21 9	161	105 6	143
1923	1 3¼	174	21 5	159	125 10	169
1924	1 2⅞	170	22 2	164	119 6	162
1925	1 2⅞	170	22 6	167	122 0	165
1926	1 2⅞	170	20 3	150	116 0	157
1927	1 2	160	19 3	143	108 0	146
1928	1 2⅛	161	20 5	151	128 0	173
1929	1 2¼	169	20 6	152	116 6	158
1930	1 2⅛	162	17 3	127	96 0	132
1931	1 0⅞	147	15 0	111	86 0	116
1932	1 0⅝	144	13 9	102	93 6	127
1933	1 1⅛	150	12 9	94	82 0	111
[3]1934	1 2¼	163	11 9½	87	76 0	103

[1] British Dairy Fresh Second Quality.
[2] Cheddar Second Quality.
[3] Figures approx.

APPENDIX II

IMPORTS OF MILK AND MILK PRODUCTS: UNITED KINGDOM

NET IMPORTS OF FRESH MILK

	Gallons	Declared Value
		£
1922	174	116
1923	720,801	30,489
1924	437,365	26,940
1925	548,326	32,537
1926	800,021	35,983
1927	911,384	36,348
1928	1,084,359	59,085
1929	609,253	36,244
1930	535,444	31,493
1931	903,363	53,712
1932	601,204	34,121
1933	753,353	28,132

IMPORTS OF WHOLE CONDENSED MILK SWEETENED

Year	Condensed Milk (Sweetened)		Gallons of Fresh Milk Equivalent
	Cwt.	Value	
		£	
1922	355,579	1,440,702	9,671,749
1923	397,867	1,302,059	10,821,982
1924	313,605	993,978	8,530,056
1925	287,926	846,262	7,831,587
1926	254,678	636,521	6,927,242
1927	252,239	604,815	6,860,901
1928	296,296	712,230	8,059,251
1929	257,975	597,785	7,016,920
1930	224,813	481,962	6,114,914
1931	228,350	448,134	6,211,120
1932	205,413	343,510	5,546,151
1933	145,069	237,005	3,916,863

APPENDIX II (*contd.*)

IMPORTS OF WHOLE CONDENSED MILK (UNSWEETENED)

Year	Condensed Milk (Unsweetened)		Gallons of Fresh Milk Equivalent
	Cwt.	Value	
		£	
1922	245,025	658,657	6,664,680
1923	406,209	1,181,373	11,048,885
1924	390,521	1,184,023	10,622,171
1925	327,180	939,984	8,899,296
1926	357,239	1,006,437	9,716,901
1927	407,055	1,147,697	11,071,896
1928	422,022	1,152,803	11,478,998
1929	400,872	1,065,094	10,903,718
1930	398,991	989,495	10,852,555
1931	476,589	1,068,464	12,963,221
1932	397,229	831,454	10,725,183
1933	380,560	759,068	10,275,120

IMPORTS OF SEPARATED OR SKIMMED MILK (SWEETENED)

Year	Cwt.	Value	Gallons of Fresh Milk Equivalent
		£	
1922	1,248,335	3,332,858	40,071,553
1923	1,426,804	3,663,593	45,800,408
1924	1,477,829	3,457,557	47,438,311
1925	1,595,130	3,206,706	51,203,673
1926	1,772,525	3,176,066	56,898,052
1927	1,854,577	3,271,482	59,531,922
1928	1,950,403	3,371,723	62,607,936
1929	1,985,108	3 107,435	63,721,967
1930	1,972,334	2,828,301	63,311,921
1931	2,085,436	2,801,212	66,942,496
1932	2,138,756	2,433,411	68,440,192
1933	1,917,863	2,083,893	61,371,616

APPENDIX II (*contd.*)

IMPORTS OF MILK POWDER (NOT SWEETENED)

Year	Cwt.	Value	Gallons of Fresh Milk Equivalent
		£	
1922	67,914	247,004	8,054,600
1923	61,067	227,544	7,242,546
1924	84,183	234,314	9,984,104
1925	94,656	290,442	11,226,202
1926	129,009	359,369	15,300,467
1927	131,769	333,654	15,627,803
1928	179,567	457,791	21,296,646
1929	245,659	625,731	29,135,157
1930	233,109	548,301	27,646,727
1931	339,147	640,802	40,222,834
1932	320,312	598,458	38,117,128
1933	280,036	469,155	33,324,284

IMPORTS OF MILK POWDER (SWEETENED)

Year	Cwt.	Value	Gallons of Fresh Milk Equivalent
		£	
1922	—	—	—
1923	7,391	54,833	580,194
1924	52	337	4,082
1925	33	164	2,590
1926	1	11	78
1927	30	151	236
1928	58	124	4,553
1929	16,475	100,343	1,293,288
1930	14,364	82,248	1,127,574
1931	8,066	44,367	633,181
1932	6,216	31,701	491,064
1933	5,865	26,979	463,335

APPENDIX II (*contd.*)

IMPORTS OF MILK PRESERVED, OTHER KINDS (NOT SWEETENED)

Year	Cwt.	Value	Gallons of Fresh Milk Equivalent
		£	
1922	83,168	624,252	7,036,013
1923	18,958	122,828	1,603,847
1924	9,883	63,304	836,102
1925	27,016	197,176	2,285,554
1926	23,429	141,490	1,982,093
1927	19,961	108,721	1,688,701
1928	27,509	159,454	2,327,261
1929	3,360	336	284,256
1930	2,163	3,390	182,990
1931	4,959	10,770	419,531
1932	6,054	13,318	508,536
1933	1,363	3,407	114,492

IMPORTS OF BUTTER AND CHEESE

Year	Butter		Cheese	
	Cwt. 000	Value 000	Cwt. 000	Value 000
		£		£
1922	4,269	57,316	2,659	12,438
1923	5,096	44,235	2,839	15,261
1924	5,287	49,647	2,888	13,552
1925	5,853	53,204	3,099	15,697
1926	5,819	48,283	3,014	13,941
1927	5,819	48,205	2,949	13,494
1928	6,113	52,045	3,005	14,997
1929	6,397	54,706	2,994	13,913
1930	6,822	46,870	3,112	12,603
1931	8,060	46,298	2,886	9,063
1932	8,364	41,055	3,003	9,090
1933	8,835	34,437	3,040	7,612

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AGRICULTURE—(*c*) THE LIVESTOCK AND MEAT INDUSTRY

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A REVIEW OF THE LIVESTOCK AND MEAT INDUSTRY

It is generally stated that the livestock industry is the most important branch of British agriculture. Some notable changes have, however, occurred in this system of farming during the last decade. With the fall in the prices of cereals after the War the arable area gradually declined, and at the same time home supplies of meat during the winter and spring periods tended to diminish. The almost continuous fall in the prices of fat cattle during the last ten years undoubtedly served to discourage the production of these classes of stock, especially in view of the fact that other branches of farming were proving more remunerative.

The livestock industry has been appreciably affected by changes in the type or quality of supplies of meat obtained from abroad. Our imports of fresh beef are small, they only amounted on the average to 50,000 cwt. per annum during the years 1921–29; supplies of all classes of imported beef, however, only showed an increase of 4 per cent in 1929 on the 1921 figure.[1] Imports of chilled beef were more than three times greater in 1929, whereas supplies of frozen beef fell during the interval to almost one quarter of the 1921 total. Imports of all classes of beef did not show much variation between 1929 and 1931, but home supplies fell off somewhat, with the result that the total quantity available declined slightly. In 1932 owing in part to restrictive measures there was a further fall in total supplies.

Our supplies of chilled beef come almost entirely from South America. The Argentine provided 89 per cent of the total of 9,500,000 cwt. which was the average annual importation between 1927 and 1931. Developments in the science of refrigeration have enabled supplies to enter the chilled beef trade which previously would have been included in the category of frozen beef. Australia supplies us with about 34 per cent of our frozen beef, New Zealand 12 per cent, and the Argentine about 35 per

[1] Actual quantities are given in Appendix II.

cent. Tinned and canned beef come mainly from South America, and up to 1931 supplies were arriving in increasing quantities, but between 1927 and 1931 we imported just under 1,000,000 cwt. annually. Imports of veal are negligible, supplies are almost entirely home-fed or home-killed.

Only small quantities of fresh mutton and lamb are imported; between 1921 and 1929 about 70,000 cwt. arrived annually. Only half the quantity of frozen mutton was imported in 1929 compared with 1921, but frozen lamb showed a 36 per cent increase during the interval. Some increase in total imports occurred after 1929, and by 1932 there had been an increase of 21 per cent. Nearly half our overseas supply comes from New Zealand, the Argentine sends 25 per cent, but only 13 per cent comes from Australia. The remainder is obtained from several different countries but none of these send more than 5 per cent of our total imports. On the whole there has been an improvement in the qualities of imported mutton and lamb, and grading has vastly improved. Organization for marketing has also been developed. Home supplies of mutton and lamb have not shown much change in recent years, and between 1927 and 1932 have been on the average about 43 per cent of the total quantity available.

Overseas supplies of bacon have been arriving in increasing quantities since the War, and up to 1923 the same applied to hams, but after that date there was a gradual decline in the quantity of hams imported. Denmark is our main source of supply of bacon and usually accounts for about 60 per cent of the total, whilst the United States is our main supplier of hams. November, 1932, saw the beginning of certain voluntary arrangements between Great Britain and the main countries of supply for the restriction of imports; subsequently oversea supplies have been on a reduced scale.

A considerable proportion of the supply from the Irish Free State consisted of pig carcases bought by Northern Irish bacon curers from districts near the boundary. The imposition of special duties in 1932 on goods from that country was followed by a 31 per cent fall in quantities shipped that year, compared with 1931. Home production of pig meat has not fluctuated

widely in recent years; between 1927 and 1932 it was on the average about 30 per cent of the total pig meat consumed in this country.

The most important event in the fresh pork trade was the imposition of the "sanitary" embargo on imports from Europe of August, 1926. Up to that time considerable quantities had been obtained from the countries of Northern Europe but mainly from Holland. Since that time imports of fresh pork are obtained solely from the Irish Free State. For some time the embargo gave relatively little stimulus to home production, but brought a considerable increase in supplies from Ireland.[1]

SEASONALITY OF PRODUCTION. The production of fat stock in this country has always tended to be of a rather seasonal character, but in recent years there have been changes in seasonal output. Summer feeding of cattle on grass is now the predominant system with the result that towards each autumn and early winter offerings in our markets are greatly in excess of average monthly supplies. What indoor feeding is done consists mainly in the finishing off during early winter of grass fed cattle; after January, therefore, home supplies generally dwindle. During October and November supplies of beef and veal are about 20 per cent above normal, whereas in June they are 20 per cent below it. Supplies from abroad do not show such marked variation; they remain fairly steady throughout the year except in autumn—the time of glut on the market—when to offset the abnormal offerings of home fed stock, imports are curtailed by about 10 per cent.

Apart from the general fall in the prices of fat cattle which has been conspicuous since 1925 there occurs a marked seasonal fluctuation. When home supplies are short, i.e. in early summer, prices have usually risen by 10 per cent above the monthly average, whilst about November they have fallen to 10 per cent below it.

The system of sheep farming in this country has undergone a change somewhat similar to that in the cattle fattening

[1] See Henderson: Partial Protection of the Fresh Pork Market. Department of Agricultural Economics. University College, Aberystwyth. Cyclostyled.

industry; fat sheep are now mainly produced on grass, and in consequence it is to be expected that relatively large quantities will be available in the late summer and autumn. The quantity marketed is usually 20 per cent below normal in March and April, but rises to 30 per cent above it in August and September, but in this case the period of peak supply is somewhat more variable than in the case of cattle. Imports fluctuate almost inversely with home supplies. In general, it has been found that in autumn and winter supplies and prices of home-killed mutton and lamb move in opposite directions. It appears, therefore, that the heavy offerings at the period of peak supplies result in low prices to the producers, whereas the importers offer great quantities in other months when prices are more favourable.

Although enormous seasonal fluctuations occur in the supplies of home killed pork it cannot be said that a seasonal glut is caused. There is an increase in demand for pork towards the end of the year, and it is at this time that supplies are heaviest; prices therefore remain around the yearly average during the season of heavy sales.

PRICES—GENERAL. Since 1920 agriculture has been passing through a period of falling prices, and with minor interruptions it has been a period of general depression. There was a slight rise in prices of agricultural commodities during 1923 and 1924, but this was followed by a period of slowly declining prices from 1925 to 1929; and during the last few years—1930 to 1933—there has been a further serious and severe fall which has made it difficult for many farmers to continue in business. This price movement, of course, was not an exclusively agricultural phenomenon but rather a decline in sympathy with the general price movement that affected all industries. There was in fact a close similarity between the decline in the general wholesale commodity price level and that of agricultural prices. Different foodstuffs were, however, unequally affected as particular conditions of demand and supply exerted their influences upon individual commodities.

But agricultural prices after 1926 fell slightly less than those of wholesale commodities, and between 1926 and 1932 the divergence between the two price-levels tended to widen. In most other

countries the prices of agricultural commodities suffered a more severe fall than that shown by the index number of all wholesale commodities.

The decline in prices generally between 1920 and 1923 was in a large measure due to post-war deflation and was common to most western countries. Between 1923 and 1926 prices although somewhat unsteady remained about 50 per cent above the pre-war level, and the fluctuations that occurred during this period were due to conditions of demand and supply rather than to purely monetary causes. There was in fact a slight recovery of prices during this period, and it led to the hope that a general upward tendency and a revival of trade was to be expected. Although this expectation was not fulfilled in Great Britain, in several countries it was followed by an era of prosperity. After the return to the gold standard in 1925 prices began to fall again, and with minor interruptions continued their downward course throughout the remainder of the decade.

With the close of 1929 began the fall in prices which particularly affected livestock producers. Grain prices had been comparatively low since 1924, but although arable farmers began to feel the depression at an early stage in the post-war price decline, the low prices of cereals helped the stock producers to some extent, as relatively cheap food was available. This reduced the cost of producing animal products, and in consequence stock farmers were able to meet declining prices with less difficulty than might otherwise have been encountered.

PRICES OF CATTLE. Between 1928 and 1930 fat cattle prices remained at an abnormally low level compared with those of other farm products. This was largely due to the breakdown in April, 1925, of the arrangement between the Argentine meat importers; abnormally heavy shipments of meat from that country followed, especially during 1926 and 1927. Fat cattle prices stood at 51 per cent above the pre-war level in 1925, and only 8 points below the index number of all agricultural commodities. By 1927 fat cattle prices had fallen to a position only 27 per cent above the pre-war level, whereas the general agricultural price level was 44 per cent above it. The prices of store cattle also fell in sympathy with those of fat stock, and it is clear

that stock producers suffered appreciably from foreign competition after 1926, as until 1931 the index number of fat cattle prices was for many years consistently below the agricultural produce index number.

PRICES OF SHEEP. Between 1926 and 1930 sheep prices in this country were comparatively favourable as the level was consistently above those of most other classes of stock. The really disastrous fall did not occur until after 1930; during the following two years there was a most serious drop which proved to be very damaging to the industry. Sheep prices in 1930 stood at 60 per cent above the pre-war level, they fell to a position 33 per cent above it in 1931, and during 1932 dropped to a point 3 per cent below the 1911–13 level. Sheep farmers, therefore, suffered during the last three years owing to the sharp decline of prices, but previous to 1930 they enjoyed relative prosperity when compared with producers of fat cattle. The latter, on the other hand, suffered owing to the persistent low levels of fat stock prices, but probably some palliatives were found in the lower prices of feeding stuffs, and in the possibilities of adjusting their business gradually to the changing circumstances. Sheep prices continued their downward drift; in December, 1932, they reached a position 9 per cent below the pre-war level, during 1933 they recovered somewhat, and in December, 1933, stood at 6 per cent below the 1911–13 figure.

PRICES OF PIGS. Cyclical fluctuations are a conspicuous feature of pig prices; in general, prices show an upward tendency for about two years and this is followed by a downward movement for another two years. The full influence of the cyclical movement may not always be apparent as other forces may exert greater weight and offset its effect. The prices of both pork and bacon pigs were relatively good between 1928 and 1930 with the cycle on the up-grade. The universal fall in prices in 1930 was concurrent with the beginning of a downward cyclical movement of pig prices; consequently the prices of both pork pigs and bacon pigs showed a far more sudden decline during 1931 and 1932 than the general agricultural price level. From a position 153 per cent above the pre-war level in 1930 bacon pig prices fell in 1931 to a position only 7 per cent above it, and in

1932 declined further until the average level for the year was 9 per cent below the 1911–13 figures. Pork pig prices were also comparatively high in 1930; from a position 65 per cent above the pre-war level in that year they fell to 23 per cent above it in the following year and to 2 per cent below it in 1932. The prices of both classes of pigs recovered somewhat, however, in 1933 as, along with other forces, the effects of another upward cyclical movement were being felt, and by the end of 1933 bacon prices had recovered to a position 9 per cent above the 1911–13 figure and pork pig prices to a point 26 per cent above it.

CONSUMPTION. In connection with prices, and with regulation of supplies which is described later, it may be important to notice that considerable changes in consumption have occurred. Beef has shown the lowest relative prices, and these have been accompanied by diminishing consumption. On the other hand, fluctuating but relatively high prices of mutton and lamb have been accompanied by increasing consumption. Total supplies of pig-meat are affected by the supply-price cycle, but on the whole consumption has tended to increase.

SUPPLIES OF MEAT PER HEAD OF POPULATION OF GREAT BRITAIN, 1927–32

Year	Beef	Veal	Mutton and Lamb	Pig-meat	All Meat
	lb.	lb.	lb.	lb.	lb.
1927	69·2	2·3	27·7	39·9	139·1
1928	67·8	2·4	28·1	43·0	141·3
1929	66·8	2·4	27·5	40·2	136·7
1930	65·6	2·2	28·6	41·3	137·7
1931	64·4	2·2	30·8	47·4	144·8
1932	60·7	2·1	31·8	49·4	144·0
1933	62·1	2·4	33·0	48·0	145·5

MEASURES FOR REGULATION OF IMPORTS. The low prices and low demands in some markets caused a demand for tariff protection or for regulation, with restriction, of supplies. Consequently in the Ottawa Agreements attempts were made to regulate imports of beef, mutton and lamb from foreign sources, and to stabilize the supplies of mutton and lamb from the

Dominions; but at the same time provisions were made for a limited increase in Dominion supplies of frozen beef. The general objects were those of developing home production and giving the Dominions an expanding share of imports into the U.K. July, 1931, to June, 1932, was taken as the *standard* year, and as from 1st January, 1933, it was decided that imports of foreign chilled beef should be restricted in volume to the amounts imported in the standard year. Argentina, Uruguay and Brazil were affected by this restriction. Imports of frozen beef and frozen mutton and lamb from foreign countries, for the first quarter of 1933, were not to exceed 90 per cent of those in the corresponding quarter of the Ottawa year; in the second quarter they were not to exceed 85 per cent of the imports in the corresponding quarter of the standard year, and so on by progressive reductions of 5 per cent each quarter, until in the second quarter of 1934 imports from foreign countries would stand at 65 per cent of the amount imported in the corresponding quarter of the Ottawa year. Thereafter, until 1937 foreign imports were to be stabilized at 65 per cent of those in the corresponding quarter of the Ottawa year, unless in the meantime other arrangements had been agreed.

During the period January, 1933, to June, 1934, the U.K. Government agreed not to impose any restrictions on imports of Australian and New Zealand meat, but these latter countries undertook that their exports of mutton and lamb during 1933 would not exceed the amount exported in the Ottawa year, and Australia promised to ensure that her exports of frozen beef in 1933 should not be increased to an extent exceeding 10 per cent of the quantity exported in the Ottawa year. New Zealand estimated that her exports of frozen beef for 1932–33 would only be 10 per cent more than in the Ottawa year.

As the prices of livestock in this country fell heavily during the autumn of 1932 the situation became serious. The British Government entered into discussions with the foreign and Dominion Governments with a view to arriving at additional voluntary arrangements that would more immediately relieve the situation. The South American countries agreed to reduce their marketings of chilled beef in the U.K. by 10 per cent and,

if necessary, by 20 per cent during November and December, 1932, and their supplies of mutton and lamb by 20 per cent. The Australian and New Zealand Governments also agreed to reduce during the same period their shipments of frozen mutton and lamb by 10 per cent below their shipments during the corresponding months of 1931.

As prices still failed to rise with the curtailment of supply the policy was continued into 1933, and further arrangements were made under which total imports of chilled beef during the first quarter were not to exceed 90 per cent of the imports in the corresponding quarter of 1932; only a small reduction was made in the second quarter of 1933, but as prices again failed to respond further reductions in imports of chilled beef were arranged, until in the last quarter of 1933 they were not to exceed 85 per cent of those in the corresponding quarter of the Ottawa year. With regard to frozen beef, mutton and lamb, no arrangements additional to the Ottawa Agreements were made.

Until the 7th November, 1936, our meat trade with the Argentine is governed by an agreement between the U.K. Government and the Government of the Argentine Republic. This provides that imports of chilled beef from the Argentine are not to be reduced below the quantity imported in the corresponding quarter of the Ottawa year, unless after consultation with the Argentine Government it is thought that such action is necessary in order to secure a remunerative level of prices in the U.K. If the U.K. Government consider it necessary that imports of chilled beef from the Argentine should be reduced in any year by an amount more than 10 per cent below the quantity imported in the Ottawa year, imports from the Dominions shall be reduced by the percentage over and above the 10 per cent that imports from the Argentine are reduced. Reductions beyond those laid down at Ottawa on imports of frozen beef, mutton and lamb from the Argentine shall not be made unless imports of such meat from the Dominions are also restricted.

Although these agreements were made in the early stages of control it was difficult to make the arrangements by which imports could be checked and the agreements enforced. From the official figures it appears that exporters of some countries

have not entirely adhered to the Agreements made. Supplies during some months of 1933 were appreciably in excess of the quantities laid down in the Agreements. Both foreign countries and some of the Dominions allowed excessive supplies to be sent to this country, so the recovery in prices expected as a result of restricting supplies did not occur.

DUTIES. Apart from the special Duties on imports from the Irish Free State the Government of this country have undertaken not to impose duties on meat other than tinned, canned extracts and essences which are subject to a rate of 10 per cent *ad valorem* under the Import Duties Act, 1932. The following duties are levied on goods from the Irish Free State under the 1932 Act and the Orders subsequently made.

LIVE CATTLE	
Under 6 months old	£1 5s. per head
6 months to under 15 months	£2 10s. ,,
15 months to under 2 years	£4 ,,
2 year old and upwards but not being cattle known as mincers	£6 ,,
2 year old and upwards being cattle known as mincers	£3 ,,
LIVE SHEEP AND LIVE LAMBS	10s. ,,
OTHER ANIMALS	40% *ad valorem*
MEAT	
Mutton or lamb—Carcasses	10s. per carcass
Sides	5s. per side
Other kinds	40% *ad valorem*
Pig meat—Carcasses	Such a rate of duty as will amount to 16s. per cwt. or to 40% *ad valorem* whichever is the greater
Beef and veal	40% *ad valorem*
Edible offals	40% ,,
Other meat	30% ,,
POULTRY (Dead)	
Fowls, ducks and geese	1d. per lb.
Turkeys	4d. ,,
Other kinds (including live poultry and game)	30% *ad valorem*

MARKETING REFORM. With the fall in prices in 1921 and the following years British farmers were concerned with the margins between producers' and consumers' prices. But other causes of dissatisfaction with existing marketing systems also existed;

and with the pressure of imports, especially those of the higher qualities, on the markets, various tendencies towards reform of marketing were shown between 1924 and 1930. Some of these were concentrated in the Agricultural Marketing Act of 1931 for which full preparation had been made before the slump of that year. The slump, however, increased the need of change in organization for marketing, and in particular has induced farmers to accept measures of control which might have been rejected in periods of greater economic stability.

MARKETING PIGS AND BACON. On the 21st April, 1932, the Ministry of Agriculture set up a Reorganization Commission to prepare a scheme for regulating the marketing of pigs and pig products for Great Britain. The report was published on 13th October, 1932. Two schemes were suggested, one for bacon pigs and the other for bacon. The schemes were taken up by the respective producers, and after passing the necessary stages as required by the Agricultural Marketing Act, 1931, both schemes came into force in July, 1933. In accordance with the requirements of the schemes two Boards were established, viz. the Pigs Marketing Board and the Bacon Marketing Board.

Any producer of pigs for the bacon market who desires can register, but if he does not wish to sell to registered curers or to the Board he is exempt. All producers of bacon, however, must register with the Bacon Board if not granted exemption on the ground that only small quantities are handled. One of the main objects of these schemes is to encourage the production of bacon in this country. Producers of pigs are therefore required to arrange forward contracts with the curers. From such contracts information is available regarding the potential supply during the contract period, and as the total consumption of bacon in this country can be closely calculated it is possible to estimate our requirements from abroad. The quota system is therefore introduced into the industry; a definite part of the anticipated home market is available for the British producer, and under the Agricultural Marketing Act, 1933, the Minister of Agriculture is given power to regulate imports in accordance with the home supply.

The production of bacon pigs has been highly speculative for

many years as prices tended to move in cycles of 4 years' duration. Two years of rising prices were followed by an approximately equal period of falling prices. As the contract system for pigs required statements regarding deliveries of pigs not yet born, and as the cyclical variations in pig prices were found to be closely associated with feed prices, an attempt was made to ensure a profit to efficient producers by linking the prices of bacon pigs with those of feed. Producers operating under the Scheme during 1933–34 were paid for their pigs on an estimated cost of production basis; when feed prices are relatively high during the feeding period, higher prices are paid for the animals than when they are low.

LIVESTOCK MARKETING REFORM. In December, 1932, the Minister of Agriculture set up a Reorganization Commission to prepare a scheme for the marketing of fat stock in England and Wales. The Commissioners published their report on 28th March, 1934. After reviewing the situation during the last few years they pointed out the need for reform, and indicated that it was necessary to tighten up the regulations governing supplies from overseas.

They also drafted a marketing scheme in accordance with the provisions of the Agricultural Marketing Act, 1931, covering nearly all classes of cattle, sheep and pigs regardless of whether they are sold in fat or store condition. The major marketing problems they point out are: (1) a general lack of marketing organization; (2) an excessive number of markets, auctioneers and dealers; (3) inefficient use of methods of sale; (4) a lack of market intelligence and of knowledge of supplies and prices, and (5) the fluctuation of supplies at markets. It is recommended that the potential supply of home produced meat should be a factor in determining the maximum of imported supplies, and that the total quantity should be regulated so as to ensure stable conditions in the British Market.

Although the prices obtainable for fat stock in this country in recent months have been below remunerative levels, and although producers have been suffering appreciable losses, the Commissioners reject the principle of fixing minimum prices as a means of assisting the industry. The marketing reforms suggested are of an evolutionary character as they propose the retention of the

existing structure. It is suggested that the Livestock Marketing Board, which will come into existence if the scheme passes the necessary stages as required in the Act of 1931, should be given the power to regulate the rate of marketing livestock in the country. Each producer would be registered by the Board but would be free to choose his method of selling stock. Sales, however, would only be permitted to or through persons approved by the Board, and a list of approved dealers, butchers and auctioneers and others who are engaged in the livestock trade would be kept by the Board. The conditions of their approval should provide a means of regulating their business methods if this proves to be necessary. The proposals are designed to encourage sales of livestock at public auctions and sales of fat stock direct to the meat market on a grade and dead weight basis. It is contemplated that there would be no interference with sales between farmers.

The Commissioners strongly recommend the institution of a system of securing statistical and other information with regard to supplies and prices of stock. This is required so that the results can be disseminated to the persons in the trade in order to guide them in the administration of their business. It is also needed to enable the Government to regulate imports effectively by giving adequate notice to oversea countries. Finally it is required for the purpose of planning future production.

When information is available relating to demand, supply and prices in all the important market centres of the country it will be possible for marketing to proceed more smoothly and effectively. At present there is much waste in the process, which is partly due to inadequate knowledge and to an excessive number of middlemen. It is hoped, by a gradual process of rationalization, to narrow the margin between the price the farmers receive for their fat stock and the retail price of meat. This form of reorganization it is expected will enable producers to obtain satisfactory prices for their supplies without raising the price of meat to the consumer, whilst any serious interference with the existing marketing structure will be avoided.

It was realized in 1934 that the recommendations of the Live Stock Reorganization Commission could not be put into effect

within a short period of time; meanwhile the prices of fat cattle remained at a very unsatisfactory level. Some measure which would relieve the situation without delay was demanded. On the 11th July, 1934, therefore, the Minister of Agriculture made an announcement in the House of Commons on the Government's livestock policy. It was stated that in view of the serious nature of the problems involved in the formulation of a long term policy the Government were anxious to allow sufficient time for a full discussion of the various possible alternatives. In the meantime emergency measures were to be taken to relieve the position of the home producer. The Cattle Industry (Emergency Provisions) Act became law on the 31st July, 1934.

This Act provides that payments may be made to producers of certain classes of cattle or carcasses during the period September, 1934, to 31st March, 1935. A sum of £3,000,000 was provided from the Consolidated fund and advanced to a Cattle fund from which the payments were to be made to producers. It is intended that all the sums advanced, including advances to cover the costs of administration, shall be recoverable by the Exchequer from the proceeds of a levy which may later be collected on imported meat and livestock.

Each payment to producers is calculated on the weight of the animal at the time of sale and is only paid on steers, heifers or "cow-heifers." The expression "cow-heifer" means any female bovine animal which has calved but which has not grown more than six permanent incisor teeth. The payment in the case of animals sold on a live weight basis is at the rate of 5s. per cwt. Animals sold on a dead weight basis qualify for the payment also, in such cases it is calculated on the weight of the carcass and amounts to 9s. 4d. per cwt.

The Ministry of Agriculture appointed a special Committee called the "Cattle Committee" to administer the subsidy. The Committee selected centres throughout the country at which the certification of animals qualifying for the subsidy could be made. Producers whose cattle qualify for the payment are given a certificate at the centres, these are forwarded to the Cattle Committee and the payment is made direct to the producer.

The general position as regards meat markets has been that

total supplies have been fully maintained, total consumption of the chief meats shows little change, but taking poultry and eggs into consideration an increase in supplies and consumption has occurred. Changes in demands for individual varieties and classes of meats do not always show the generally expected trends in response to changes in prices. On the whole, the trend of consumers' appreciation and of demand is towards the "lighter" or more delicate, and more expensive meats. While some changes in qualities of different classes of imports, and in their sources, have occurred since the beginning of the regulatory system in 1932, the total reduction appears to have been of a negligible amount. The main factors in the markets have been the purchasing power of consumers and their changing needs and tastes.

APPENDIX I

INDEX NUMBER OF PRICES

(1911–13 = 100)

Year	Fat Cattle		Fat Sheep		Fat Pigs			
					Pork		Bacon	
	Per cwt.[1]	Index	Per lb.[2]	Index	Per 20 lb.[3]	Index	Per 20 lb.[4]	Index
	s. d.		*d.*		*s. d.*		*s. d.*	
1921	141 3	227	16¼	217	24 9	234	22 1	220
1922	104 3	163	15	200	20 4	192	18 –	180
1923	96 –	151	14	187	18 1	171	15 9	157
1924	53 –	153	14	187	14 9	139	13 4	133
1925	53 5	151	13¾	183	17 5	164	16 4	163
1926	49 9	141	11¾	157	19 6	184	18 –	180
1927	45 7	127	11	150	16 5	155	14 5	144
1928	49 –	138	12⅛	167	14 8	138	13 5	135
1929	47 11	133	11¾	157	17 6	165	15 11	160
1930	47 10	133	12	160	17 6	165	15 4	153
1931	43 5	122	10	133	13 –	123	10 8	107
1932	40 6	115	7	97	10 4	98	9 1	91
1933	35 10	101	8½	110	11 6	109	10 2	102
1934	35 1	99	9½	127	12 6½	120	11 1	112

[1] Average Prices Second Quality (Live Weight) Shorthorn, Hereford and Devon cattle.

[2] Average Prices Second Quality (Dead Weight) Down and Longwool sheep.

[3] Average Prices (Dead Weight). [4] Average Prices (Dead Weight).

APPENDIX II

DETAILED STATEMENT OF LIVESTOCK AND MEAT IMPORTS IN 1932, 1933 AND 1934

		1932	1933	1934 [1]
CATTLE—For food				
Irish Free State	Number	625,887	582,174	458,164
Canada	,,	16,724	51,433	51,373
Foreign Countries	,,	—	—	—
	TOTAL	642,611	633,607	509,537
COWS AND HEIFERS—				
For breeding	Number	29,795	10,683	49,788
SHEEP AND LAMBS—For food				
(Total) Irish Free State	,,	440,871	318,299	362,989
SWINE—For food				
(Total) Irish Free State	,,	302,760	143,970	133,913
BEEF—				
Fresh and salted	Cwt.	7,683	35,446	4,667
Chilled—				
Empire	,,	9,369	142,073	238,358
Foreign	,,	8,789,372	8,029,247	8,012,164
	TOTAL	8,798,741	8,171,320	8,250,522
Frozen—Quarters and sides				
Empire	Cwt.	1,177,609	1,383,634	2,025,168
Foreign	,,	274,240	147,058	143,601
	TOTAL	1,451,849	1,530,692	2,168,769
Frozen—Boned, including cheeks and skirts				
Empire	Cwt.	271,447	472,865	477,597
Foreign	,,	72,280	188,578	62,707
	TOTAL	343,727	661,443	540,304
Frozen—Other descriptions including tongues, hearts, livers, kidneys, etc.				
Empire	Cwt.	110,712	93,230	107,737
Foreign	,,	657,129	628,572	592,696
	TOTAL	767,841	721,802	700,433
Tinned, canned, etc.				
Empire	Cwt.	1,040	1,585	2,366
Foreign	,,	71,184	67,609	88,824
	TOTAL	72,224	69,194	91,190
Other:				
Empire	Cwt.	20,542	19,549	27,295
Foreign	,,	659,818	766,913	829,639
	TOTAL	680,360	786,462	856,934

[1] Provisional.

APPENDIX II (*contd.*)

DETAILED STATEMENT OF LIVESTOCK AND MEAT IMPORTS IN 1932, 1933 AND 1934—(*contd.*)

		1932	1933	1934
BEEF (*contd.*)—				
Extracts and essences				
Empire	Cwt.	4,679	4,349	8,927
Foreign	,,	47,649	63,351	57,688
TOTAL OF BEEF		12,174,753	12,044,059	12,679,434
VEAL—Frozen				
Empire	Cwt.	88,182	142,321	122,566
Foreign	,,	48,637	25,899	11,255
	TOTAL	136,819	168,220	133,821
MUTTON AND LAMB—				
Fresh	Cwt.	7,249	44,000	12,882
Frozen Mutton				
Empire	,,	1,527,709	1,347,719	1,360,833
Foreign	,,	537,825	392,562	236,591
	TOTAL	2,065,534	1,740,281	1,597,424
Frozen Lamb				
Empire	Cwt.	3,532,183	3,694,898	3,821,805
Foreign	,,	1,329,357	1,217,590	1,060,288
	TOTAL	4,861,540	4,912,488	4,882,093
Tinned, canned, etc. (including tongues)	Cwt.	39,573	54,002	47,005
Other descriptions (tongues, hearts, livers, kidneys, etc.)		142,464	130,748	153,469
TOTAL OF MUTTON AND LAMB		7,116,360	6,881,519	6,692,873
PIG PRODUCTS—				
Bacon				
Empire	Cwt.	383,631	711,373	1,263,414
Foreign	,,	11,007,208	8,372,980	6,335,508
	TOTAL	11,390,839	9,084,353	7,598,922
Hams				
Empire	Cwt.	157,637	199,865	193,296
Foreign	,,	643,712	668,949	534,496
	TOTAL	801,349	868,814	727,792
Pork, Fresh (Total) Irish Free State	Cwt.	262,151	194,695	143,783
Chilled or frozen				
Empire	,,	196,427	362,471	523,977
Foreign	,,	144,594	260,305	580,743
	TOTAL	341,021	622,776	1,104,720

APPENDIX II (*contd.*)

DETAILED STATEMENT OF LIVESTOCK AND MEAT IMPORTS IN 1932, 1933 AND 1934—(*contd*)

		1932	1933	1934
PIG PRODUCTS (*contd.*)—				
Tinned, canned, etc., Tongues				
Empire	Cwt.	2,232	1,201	942
Foreign	,,	87,559	101,854	105,809
	TOTAL	89,791	103,055	106,751
All other sorts	Cwt.	56,525	71,963	109,059
Other descriptions (heads, feet, livers, kidneys, etc.)	,,	187,001	171,241	187,126

APPENDIX III

IMPORTS

BEEF

Year	Fresh	Chilled	Frozen	Salted, Tinned, Etc.	Total
	Tons	Tons	Tons	Tons	Tons
1921	1,000	150,400	430,100	26,900	608,400
1922	4,000	299,100	236,900	47,700	587,700
1923	3,600	381,500	253,400	52,200	690,700
1924	1,700	415,100	210,600	53,100	680,500
1925	2,300	411,600	206,000	67,100	687,000
1926	2,100	484,000	179,200	56,200	721,500
1927	1,200	520,200	149,400	52,400	723,200
1928	4,200	478,200	130,400	53,400	666,200
1929	2,300	465,300	118,200	47,500	633,300
1930	1,100	454,400	124,500	59,900	639,900
1931	400	464,400	134,600	57,900	656,800
1932	200	440,000	128,300	40,200	608,700
1933	1,600	408,600	145,700	46,300	602,200

APPENDIX III (*contd.*)

IMPORTS

MUTTON AND LAMB

Year	Fresh Mutton and Lamb	Frozen Mutton	Frozen Lamb	Tinned, Canned, Etc.	Total
	Tons	Tons	Tons	Tons	Tons
1921	3,600	209,200	128,700	6,500	348,000
1922	7,000	149,500	135,900	7,300	299,700
1923	5,600	146,300	141,300	5,000	298,200
1924	6,100	123,900	124,800	5,700	260,500
1925	6,200	126,100	141,400	5,500	279,200
1926	1,700	128,300	138,500	6,300	274,800
1927	700	121,000	154,400	5,500	281,600
1928	1,100	117,700	163,400	4,600	286,800
1929	1,200	104,300	177,200	5,700	288,400
1930	1,000	122,900	196,300	7,300	327,500
1931	1,300	113,700	241,700	8,100	364,800
1932	400	103,300	243,100	9,000	355,800
1933	2,200	87,000	245,600	9,200	344,000

PIG MEAT

Year	Bacon	Hams	Pork, Fresh	Pork, Frozen	Pork Other Descriptions	Total
	Tons	Tons	Tons	Tons	Tons	Tons
1921	283,900	56,400	15,400	17,100	5,100	377,900
1922	296,600	71,700	23,200	10,200	8,400	410,100
1923	389,700	87,300	30,700	20,200	13,800	541,700
1924	393,700	81,800	40,400	10,000	16,200	542,100
1925	374,300	75,800	50,600	11,300	15,700	527,700
1926	373,600	59,700	31,900	13,700	13,700	492,600
1927	424,100	44,400	15,900	9,400	16,800	510,600
1928	442,600	47,100	19,400	12,300	16,800	538,200
1929	413,900	51,400	14,800	14,900	18,800	513,800
1930	459,600	50,100	14,500	17,600	21,200	563,000
1931	556,700	41,600	19,100	18,300	20,500	656,200
1932	569,500	40,100	13,100	17,100	16,300	658,100
1933	454,200	43,500	9,700	31,100	18,400	556,900

APPENDIX III (*contd.*)

IMPORTS

POULTRY

Year	Live Poultry	Dead Poultry
	No.	Cwt.
1921	61,000	86,000
1922	239,000	172,000
1923	1,170,000	314,000
1924	1,405,000	283,000
1925	1,265,000	387,200
1926	1,306,000	410,600
1927	1,322,000	505,900
1928	1,182,000	490,000
1929	1,204,000	554,000
1930	1,092,000	570,000
1931	1,145,000	665,000
1932	876,000	514,000
1933	429,000	500,400

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THE COAL INDUSTRY

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I

THE COAL INDUSTRY PRIOR TO THE DEPRESSION

FOR over a century coal has been the basis of Great Britain's industrial economy, and it has also been of great importance in the foreign trade of the country. Moreover, coal mining has provided more employment than any other industry, apart from agriculture. In 1929 the industry in some of the coalfields compared unfavourably with 1913, but the scale of activity remained considerable. The output of the British coalfields in the aggregate amounted in 1929 to 258,000,000 tons, the selling value of which was £173,000,000. In the same year 60,000,000 tons of coal, valued at £49,000,000 (F.O.B.) were exported. The industry still gave employment to 957,000 persons, so that in this respect also it retained much of its old importance in spite of its misfortunes in the post-war years.

The coal industry does not stand alone amongst British industries in that the world depression of the last four or five years has only served to intensify a pre-existing depression. An examination of the usual criteria of prosperity or depression shows that the coal industry has been depressed at least since the latter part of 1924. The great dispute of 1926 was a symptom rather than a cause of depression, but it served to intensify the difficulties of the industry and the depression reached its depth in 1928. Unemployment rose from less than 6 per cent of the insured persons in the industry in 1923 to nearly 22 per cent in 1928.[1] This increase in unemployment partly reflected a reduction in the number of collieries at work from 2902 in 1923 to 2539 in 1928, and partly a contraction in the scale of operations at some collieries. But for the most part the increase in unemployment represented an increase in the amount of short-time working.

[1] These figures represent the average number of persons unemployed at twelve monthly dates each year expressed as a percentage of the total number of persons insured in July of the same year. This method seems the most satisfactory way of measuring unemployment in the coal industry and it is used throughout this chapter.

The number of coal-winding days lost owing to want of trade rose from 6 per cent in 1924 to 16 per cent in 1928. The increase in unemployment consequently took the form of an increase in the number of persons "temporarily stopped," rather than in the number "wholly unemployed."

In view of the large amount of short-time working, the existing complement of capital and labour in the industry was obviously capable of raising an output much greater than actually was raised in any of the years 1925–29. Moreover, the proportion of the output produced at a loss during these years was so large that the industry as a whole showed a debit balance in each of the years 1925, 1927 and 1928. Thus, in the aggregate, production was unremunerative, despite the fact that the capacity of the industry was not fully utilized. This lack of financial equilibrium provides clear evidence of depression.

The causes of this depression were subjected to minute analysis soon after its inception by the Samuel Commission, which reported in April, 1926. That Commission came to the conclusion that the depression was mainly ascribable to the loss of export markets in the post-war world. The actual decline in the home consumption of coal was relatively much less serious than that in the export markets. Nevertheless, although consumption was well maintained except at the collieries and at iron works, demand had ceased to expand as rapidly as before the war. This in itself was a serious matter in an industry such as coal-mining where great developments had taken place before the war, in such districts as South Yorkshire and Kent, in anticipation of future expansion. The stationary demand for coal for domestic consumption was due partly to the depressed condition of the heavy industries in the post-war period, and partly to the improvements in fuel consumption and utilization, including the increasing substitution of electricity in place of the direct use of coal. The substitution of new sources of fuel was an important factor affecting the demand for coal abroad (lignite and water power) and also the demand for bunker purposes (oil fuel), but it was less important at home.

The export of coal not only ceased to expand but showed an actual decline in the post-war period. In 1925 and 1928 exports

were 25 per cent less than 1913, and this decline was most marked in exports to Germany and the Baltic regions. During the war the development of coalfields in neutral countries, such as Holland, was stimulated. British coal became exceedingly scarce owing to the Government control of exports. War-time conditions also encouraged the use of lignite in Germany, which after the war supplied much of the demand that had formerly been met by Upper Silesian coal. As a result of the Peace Treaty, this coalfield became Polish Territory and was cut off from its former markets in Germany. It was therefore compelled to seek new markets elsewhere, and it ultimately found them in Scandinavia at the expense of Britain during the 1926 stoppage. It is probably true to say that new coalfields would have developed, and that the use of lignite would have increased, had there been no war. Nevertheless the war undoubtedly accelerated these changes while, in addition, the markets of Europe were greatly disturbed after the war by territorial readjustments and by deliveries of German reparation coal.

It is difficult to account for the post-war depression, and particularly the loss of export markets, solely in terms of the above analysis. It is difficult to see why the above changes did not make themselves felt in the immediate post-war years instead of five or six years afterwards. The Samuel Commission tried to answer the question by pointing out that a series of fortuitous happenings had kept from the British coal industry a full knowledge of its fate. After the readjustments necessitated by the decontrol of the industry in 1921 and the severe deflation of 1920–22, the industry received a temporary stimulus first from the American strike of 1922, and then from the occupation of the Ruhr in 1923. It is undoubtedly true that this was the case, but it is equally certain that after 1925 a further factor was at work the importance of which was unduly minimized by the Samuel Commission.[1] In 1925 England returned to the gold standard at

[1] Report of the Royal Commission on the Coal Industry, 1926, page 9: "There is no doubt that the fluctuations in the export trade since the war have been partly caused by the unprecedented instability of the currencies of Europe. . . . Nor could we expect to escape a temporary ill-effect upon all branches of our export trade at the time of the restoration of our own currency to a gold basis. But it may be believed that this effect has now spent itself . . . this factor has now ceased to be of primary importance."

an artificially high parity. Whatever the justification for this step, it is clear now that so far as the coal industry was concerned it accentuated an already difficult situation and set up an additional obstacle against the sale of British coal in foreign markets. During the years subsequent to 1924 the industry was driven in self-defence to adopt a series of remedial measures, some good and some bad.

1. In the first instance, resort was made to a Government subsidy. From August, 1925, to 30th April, 1926, the Government subsidized the industry to the extent of £23,000,000. This expensive policy was condemned by the Samuel Commission and, taking the long view, it is impossible to dissent from their criticism. The immediate consequences of the cessation of the subsidy were serious, for the 1926 dispute was directly precipitated. It should be noted that, although direct subsidization by the tax-payer came to an end, this has not ruled out a certain amount of indirect subsidization, such as the relief of the industry from local rates, and the passing on of the similar relief granted to the railway companies in the form of lower freight charges for coal.

2. Secondly, an attempt was made to restore the financial equilibrium of the industry by a reduction in the net remuneration of labour. The reduction did not at first take the form of lower earnings per shift, but hours per shift were extended from seven to seven-and-a-half in Kent, the East Midlands, and Northumberland and Durham (hewers only), and to eight hours in all other districts. This extension, however, was only intended to be temporary and was to last for five years. The 1926 dispute seriously reduced the power of the Miners' Trade Unions, and the new wages agreements which were concluded at the termination of the dispute were all on a district basis. The brief post-war experiment in the national determination of wages came to an end in 1926. After 1926 direct reductions in average wages per shift were effected in most districts.

3. During the period of depression and particularly after 1926, a determined effort was made to restore financial equilibrium by reducing costs through technical development and mechanization. Technical improvements (such as the extension of hours)

may increase the producing capacity of the fixed capital already invested in the industry, but this may be offset by a still greater expansion in demand if costs and prices can be reduced. The proportion of coal cut by machinery rose from 19 per cent in 1924 to 28 per cent in 1929. The number of conveyors in use rose from 1373 in 1924 to 3218 in 1929; the number of animals employed fell from 65,000 in 1924 to 51,000 in 1929. The proportion of coal washed increased from 20 per cent in 1927 to 28 per cent in 1929. This improvement in technique was one of the chief factors responsible for the notable increase in output per man-shift which occurred after 1926.

4. Finally, attempts were made to reorganize the industry. Reorganization took two forms: complete amalgamation, on the one hand; and voluntary co-operation for price and market control, on the other. The Samuel Commission recommended the former, and the Mining Industry Act of 1926 included important provisions to facilitate amalgamation. The Board of Trade Reports under the Act show that 20 amalgamations were effected between 1926 and 1929. Most of these amalgamations were in South Wales, Yorkshire and Lancashire. Many of them, however, only implied the formal recognition of pre-existing amalgamations, and many more were on a very small scale. Thus the number of really significant mergers was not large, except in South Wales.

The other aspect of reorganization formed the subject of an inquiry by the Departmental Committee on Co-operative Selling in the Coal Industry, which reported in December 1926. The continuance of the depression brought such organizations into the realm of practical politics. In Scotland a scheme for closing down inefficient collieries was introduced and operated until 31st March, 1929. In South Wales a scheme was introduced to maintain minimum prices. In the Midlands the Central Collieries Commercial Association was established to regulate production by means of a quota and to subsidize exports. This scheme was more successful than the others, and it did succeed in greatly stimulating exports from the Humber. Nevertheless, even in this case, the difficulties of operation accumulated and the Lancashire and Cheshire District seceded from the scheme. The

experience gained in the operation of these schemes made it apparent that they could only succeed (*a*) if membership was compulsory on all colliery owners, and (*b*) if satisfactory co-ordination was established between the various district schemes.

The year 1929 was marked by a considerable improvement in the demand for coal, not only in export markets but also in domestic industries, in spite of a strike in the Lancashire cotton industry. This revival in demand, considered in conjunction with the cumulative effect of the policies outlined above, gave many people the impression that if the position could be consolidated then the final readjustment of the industry to post-war conditions would be within reach of attainment. In 1929 the industry showed a credit balance for the first time since 1924. Consolidation, however, demanded three things, (*a*) the continuance of the improvement in the demand for coal, (*b*) the permanent settlement of the hours and wages question, (*c*) the continued operation of the marketing schemes. Of these conditions the last two were fulfilled for the time being as a result of the Coal Mines Act of 1930, but all hope of restoring equilibrium to the industry was destroyed by the non-fulfilment of the first. We shall examine how this came about in the next section but, before doing so, it is necessary to say something about the Coal Mines Act of 1930, for it is against the background created by this Act that the present depression must be studied.

The primary object of the Labour Government which introduced the Bill in 1929 was to secure a reduction in the hours of work. The maximum hours per shift were to be seven-and-a-half instead of eight as from 1st January, 1931, but "spread-over" arrangements were to be permissible. This by no means met the full demands of the Miners' Unions, especially in districts where seven-and-a-half hours were already being worked, but it did at least establish some uniformity in hours of work between the various districts. The miners' demand for a national wages agreement was not conceded, but a National Industrial Board was established on the model of the Railway Wages Board.

Partly in order to provide the industry with the means of reducing the hours of work and partly in order to meet the wishes of the more "progressive" elements among the coal owners, the

Act authorized the establishment of compulsory marketing schemes which all owners must join. Organizations were to be set up in all districts with the object of fixing minimum prices and controlling output by means of quotas. The activities of these district organizations were to be co-ordinated, in so far as output was concerned, by a central council. These proposals met with much opposition both inside and outside Parliament but they were eventually carried into law, although a proposal to raise a levy on all coal produced in order to subsidize exports had to be abandoned. The Liberal Party also demanded as the price of its support that a commission should be established in order to promote the amalgamation of colliery undertakings. It was for this purpose that the Coal Mines Reorganization Commission was established.

Although the Bill which embodied all these changes was introduced into Parliament in December, 1929, it did not become law until July, 1930. The reduction of hours did not take place until the end of the year and the regulation schemes only began to operate in January, 1931. Moreover, the compromise on the hours question was only to last for twelve months and the compulsory marketing schemes were only to last for three years. Thus the Act hardly provided a permanent solution of the problems with which it dealt, but it did at least provide a *modus vivendi* which later legislation has prolonged.

II

CHRONOLOGY

YEAR 1930. In 1930 output was 14,000,000 tons less than in 1929. Exports fell by 5·39 million tons and the decline was most marked in the exports to Scandinavia, Germany and the Netherlands. Home consumption declined considerably after the first quarter of the year and was 7,000,000 tons less than in 1929. The decline was most pronounced in the case of coal consumed by the railways and by the iron and steel industries.

This decline in production naturally led to an increase in short-time working and to some decline in the number of collieries

at work. Unemployment consequently increased from 16·5 per cent to 20·5 per cent, and the number of men on the colliery books fell from 957,000 to 931,000.

While output declined, prices remained stable, and in fact the average proceeds of the industry were 2d. per ton higher than in the previous year. There was a tendency, however, for prices to decline in the latter part of the year. The maintenance of prices made it possible to maintain and in some districts actually to increase average wages per shift.

It is thus clear that the domestic and the foreign decline in demand which occurred during this year was met entirely by a reduction in output and not by a reduction in prices. This may be ascribed to the operation of the voluntary schemes for the control of output which at the end of the year were superseded by statutory schemes under the new Coal Mines Act. Any tendency for short-time working to increase costs of production seems to have been successfully counteracted by the improvements in technique which were introduced and especially to the greatly increased use of mechanical conveyors. Some important amalgamations were also effected in Lancashire and South Wales.

Although the most important event of the year at home was undoubtedly the passing of the Coal Mines Act described above, some effort was also made to improve the position in the export markets. An official delegation of British coal owners visited the Scandinavian countries under the leadership of the Secretary of Mines and published a Report in October, 1930, making important recommendations regarding the sale of British coal in those countries. Preliminary meetings were also held during the year with German and Polish representatives with the object of exploring the possibilities of an international marketing agreement. An attempt was also made to attack the international problem from another standpoint at the International Labour Office Conference in June, where a convention was proposed to limit the hours of work in coal mines in all countries to seven-and-a-quarter per shift. This proposal, however, was defeated.

YEAR 1931. The year 1931 was the first year of operation of the Statutory Marketing Schemes, and it opened inauspiciously

with a strike in South Wales and troubles in other districts occasioned by the difficulties which arose from the reduction in hours to seven-and-a-half per shift. Output was more than 24,000,000 tons below that of the previous year, but this decline was not primarily due to labour difficulties. Home consumption declined by 10,000,000 tons, the iron and steel industry alone using 6,000,000 tons less than in 1930. The decline in exports was greater both relatively and absolutely than the decline in home consumption. This was partly due to the introduction of import restrictions and quotas in certain European countries. The cessation of the voluntary levy in the Midlands for subsidizing exports caused a 30 per cent decline in shipments from the Humber.

The relatively greater decline in output appears to point to a relatively greater decline in demand during 1931 than in the previous year. The decline in demand was again met by a contraction in output rather than by a reduction in prices. As a contrast to the decline in output average prices remained practically stable, although export prices showed some decline.

The decline in production was accompanied by an 8 per cent increase in unemployment, and the number of men on the colliery books fell from 931,000 to 868,000. Unemployment was most acute in the exporting districts of South Wales, Scotland and Durham. In spite of the reduction in hours, average wages per shift remained stable in most districts, South Wales being an exception. The seven-and-a-half hour day was extended for a further twelve months by the Coal Mines Act, 1931.

The maintenance of prices and of wages, in spite of the deepening depression, would hardly have been possible had it not been for the statutory control of output and prices. Three reports were issued by the Mines Department on the operation of the schemes. Although their introduction was attended by a certain amount of friction, they appear to have worked satisfactorily except for the fact that there was little co-ordination of prices in the inland markets.

Technical progress appears to have been sufficient not only to meet the increase in costs due to short-time working, but also to counteract that due to reduced hours. On the other hand,

very few amalgamations were effected during the year, although the Coal Mines Reorganization Commission started work and in August published a preliminary statement of the changes which it considered to be necessary.

An abortive conference of British and foreign coal-owners was held in September with a view to regulating international competition. The Convention limiting hours of work to seven-and-a-quarter in all countries was agreed to at the International Labour Conference in June, but it has not yet been ratified. The British coal industry, however, gained some advantage from the cessation of German reparation deliveries under the Hoover Moratorium.

The abandonment of the gold standard in September, 1931, caused some revival in demand both at home and abroad. The trend of British exports to Scandinavia thereafter took an upward direction but any tendency towards increased exports to other countries, such as France and Germany, was immediately counteracted by rigorous restrictions.

YEAR 1932. During this year output fell by 10,000,000 tons to 209,000,000 tons, but for the first time the decline in exports was less than that in home consumption. British exports were in fact well maintained relatively to those of other countries. British exports to Scandinavia continued to increase, and there was also an increase in exports to North and South America. On the other hand, further restrictions were imposed by Germany, Belgium and France, while Ireland, in consequence of a political dispute with this country, imposed a tax of 5s. per ton on British coal. Prices again remained fairly stable and only a slight decline of 2d. per ton was recorded.

The fall in output was accompanied by a further increase in unemployment to 34 per cent of the insured workers. The number of persons on the colliery books also fell to 819,000. Wages per shift remained at the level of the previous year, except in Scotland where there was a small decline of about 3d. per shift. The coal-owners agreed to maintain wages at the existing minima for twelve months, and they also agreed to hold joint meetings with the miners to discuss matters affecting the industry, but wages were to be excluded from such discussions and there was to be no revival of national wages negotiations. The Coal Mines Act,

1932, confirmed the seven-and-a-half hour day until the International Hours Convention, agreed upon in the previous year, was adopted and applied.

The decline in demand seems to have continued during 1932, although it was not so pronounced as in the previous year. The marketing schemes continued in operation and were extended for a further period of five years by the Coal Mines Act, 1932. Although certain minor amendments were made in some districts the schemes seem to have continued to operate satisfactorily, at least so far as output regulation was concerned.

Technical progress continued and further amalgamations were effected. The Coal Mines Reorganization Commission propounded plans for the complete amalgamation in certain small districts such as Fife and Cannock Chase. The industry made an attempt to stimulate the demand for coal by the formation of a Coal Utilization Council, which was to examine marketing methods and conduct propaganda.

YEARS 1933–34. These years were marked by a further small decline in the output of coal which amounted to only 207,000,000 tons. Apart from strike years, this is the lowest recorded annual output since 1898. The exports to Scandinavia and Germany were considerably increased, partly as a result of the trade agreements concluded between the respective governments in the spring of 1933 and the N.E. Coast and Scottish coalfields benefited thereby. On the other hand, exports to Italy, Ireland and some western countries showed a continued decline, which was partly due to increased Polish competition in these markets. Thus, while it is difficult to point to any definite improvement in 1933, the decline in demand had certainly been checked. Prices again showed only a slight fall. In view of the relatively small decline in output, unemployment did not show the same increase as in the previous years of the depression; on the other hand the number "wholly unemployed" increased relatively to the number "temporarily stopped." Wages also were well maintained in most districts.

The defects in the output and price control schemes became more apparent in 1933, particularly in relation to the supply of coal for export. Efforts to secure voluntary agreement between

the various districts for the reform of the marketing schemes proved unsuccessful, and early in 1934 the Government announced that they proposed to remove all statutory authority for the restriction of coal for export purposes. In face of this virtual ultimatum the colliery owners reached an agreement whereby the schemes were amended, so as to provide for the co-ordination of export prices and for the separation of inland and export quotas.

The activities of the Coal Mines Reorganization Commission continued and towards the close of the year the Commission made an attempt to induce the colliery owners of West and South Yorkshire, Notts and Derby, and Durham to enter into "partial amalgamations." In December they issued a report on their activities. Although rationalization in this sense has not proceeded very far, technical progress has been such that output per shift has shown a marked improvement.

III

INDEX TO OFFICIAL STATISTICS

Reference is made below to official publications only. The abbreviations refer to publications mentioned in the following bibliography (Part IV).

1. COLLERIES AT WORK

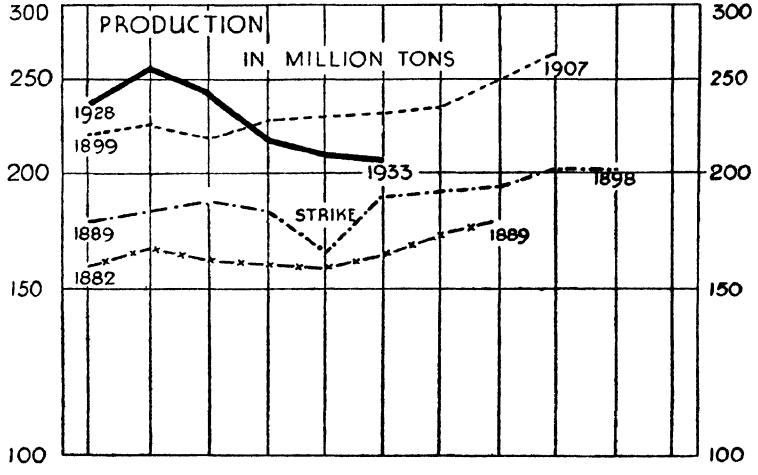
Number of mines at work under Coal Mines Act each year, by districts; A.R.S.M. (See also List of Mines.)
Number of new pits sunk or completed each year, A.R.S.M.
Average number of days on which pits wind coal, by districts:
Average per week; *fortnightly*, M.L.G.; *monthly* and *annually*, A.R.S.M.
Aggregate: *quarterly*, R.B.T.; *annual*, A.R.S.M.
Average number of days on which pits are idle, Great Britain:
Average per week: *monthly* and *annually*, A.R.S.M.
Aggregate: *annual*, A.R.S.M.

2. OUTPUT OF COAL

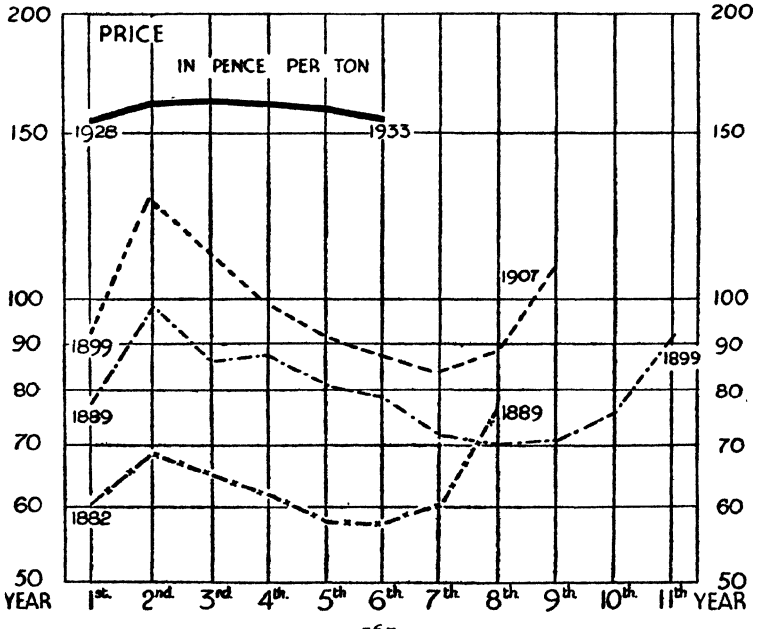
Coal raised and weighed, by districts: *quarterly*, R.B.T.; *weekly*, B.T.J., A.R.S.M.

CHARTS SHOWING (*a*) OUTPUT AND (*b*) PIT-HEAD PRICES OF COAL IN THE U.K. 1882–1907, AND IN GREAT BRITAIN, 1928–33 (ON LOGARITHMIC SCALES)

A. OUTPUT



B. PITHEAD PRICES (PER TON)



Quantity of saleable coal raised by districts and counties: *annually*, A.R.S.M.; by districts: *quarterly*, Q.S.S.

Allocations of Central Council; actual and percentage difference between allocations and actual output; by districts: *quarterly*, R.B.T., A.R.S.M.

3. CONSUMPTION OF COAL IN GREAT BRITAIN

Consumption at blast furnaces, iron and steel works, gas works, electricity works, and by railway companies: *Annual*, A.R.S.M.

Coal carbonized at all types of coke ovens and at by-product ovens; by districts: *annual*, A.R.S.M.

Quantity and kind of coal used in manufacture of briquettes and manufactured fuel: *annual*, A.R.S.M.

Colliery consumption; Great Britain: *annual*, A.R.S.M.; by districts: *quarterly*, Q.S.S.

Miners' coal; Great Britain: *annual*, A.R.S.M.; by districts: *quarterly*, Q.S.S.

Transport of coal—

Coal carried by railways: *annual*, A.R.S.M.

Coastwise shipments from principal groups of ports: *annual*, A.R.S.M.

See also: Census of Production, 1930 (B.T.J., 2/3/33); Returns relating to Gas Undertakings, Reports of Electricity Commissioners, Railway Returns, and Colliery Year Book.

4. BUNKER COAL

Tonnage of coal shipped for use of vessels engaged in (*a*) coastwise trade, (*b*) foreign trade—

Actual tonnage shipped from principal groups of ports, and percentage of total shipped from all ports: *annual*, A.R.S.M.

5. EXPORTS OF COAL (Also COKE AND MANUFACTURED FUEL)

Quantity of coal exported, by kinds and qualities: *monthly*, T.N.A.; *annual*, T.N.A., A.R.S.M.

Exports to various destinations: *annual*, T.N.A., A.R.S.M.; by kinds and qualities: *monthly*, T.N.A.

Exports from principal groups of ports: *annual*, A.R.S.M.

6. EMPLOYMENT

(a) *Persons on Colliery Books*

Total number on books, by districts: *weekly*, A.R.S.M.; *monthly*, M.L.G.; *quarterly*, A.R.S.M., R.B.T., Q.S.S.

Numbers above and below ground, and salaried persons, by districts: *quarterly*, A.R.S.M.

Number of juveniles and females, by districts: at December each year, A.R.S.M.

Number on books of individual collieries, above and below ground: See List of Mines.

(b) *Shifts Worked*

Aggregate number of shifts worked (i) at coal face, (ii) elsewhere below ground, (iii) at surface; and aggregate number of shifts lost, in Great Britain: *quarterly*, Q.S.S., A.R.S.M; by districts: *quarterly*, Q.S.S.

Average number of shifts worked per person on books, Great Britain: *quarterly*, A.R.S.M.; by districts: *annually*, A.R.S.M.

Average output per man-shift, by districts: *quarterly*, Q.S.S.; *annually*, A.R.S.M.

(c) *Persons Insured*

Total number of insured persons aged 16–65 in Coal Industry, by districts: July each year, M.L.G. (Nov.).

Number and percentage of insured persons "wholly employed" and "temporarily stopped" on last Monday of each month, by districts: M.L.G.

Transfers of insured persons from coal mining to other industries and *vice-versa: annual*, M.L.G. (Nov.).

7. WAGES

Cash earnings—

Average per shift, by districts: *quarterly*, Q.S.S., A.R.S.M.; *annual*, A.R.S.M.

Average per quarter, by districts: A.R.S.M.

Value of allowance in kind—

Average per shift, by districts: *quarterly*, Q.S.S.; *annual*, A.R.S.M.

Average per quarter, by districts: A.R.S.M.

Main provisions of district wage agreements; Subsistence wages; Percentages payable in excess of basic wage rates in each district: *monthly*, A.R.S.M.

8. COSTS OF PRODUCTION

Total costs of production, distinguishing wages costs, costs of stores and timber, other costs, welfare contributions and royalties:

Aggregate costs, Great Britain: *quarterly*, Q.S.S., A.R.S.M.; by districts: *quarterly*, Q.S.S.

Average costs per ton commercially disposable, by districts: *quarterly*, Q.S.S., A.R.S.M.; *annual*, A.R.S.M.

9. PRICES

(a) *Market Quotations*

Weekly, A.R.S.M. (also Trade Papers).

(b) *Selling Value at Pit-head*

Aggregate and average per ton of saleable coal raised, by districts: *annual*, A.R.S.M.

(c) *Export Values*

Aggregate value, by kind and quality of coal: *monthly*, T.N.A.; *annual*, T.N.A., A.R.S.M.

Aggregate value, by country of destination: *monthly*, T.N.A.; *annual*, T.N.A., A.R.S.M.

Average per ton exported, by kind and quality of coal: *annual*, A.R.S.M.

Average per ton exported at each of principal ports: *monthly* and *annual*, A.R.S.M.

(d) *Commercial Proceeds*

Aggregate proceeds, for Great Britain: *quarterly*, Q.S.S., A.R.S.M. by districts: *quarterly*, Q.S.S.

Average per ton disposable commercially by districts: *quarterly*, Q.S.S., A.R.S.M., *annual*, A.R.S.M.

10. PROFITS

Balance, credit or debit—

Aggregate balance and quarterly average per ton commercially disposable, by districts: Q.S.S.; Great Britain only, A.R.S.M.

Annual average per ton commercially disposable, by districts: A.R.S.M.

11. TECHNIQUE

Annual statistics relating to electrical equipment, coal cutting machinery, conveyors, and animals employed, by districts: A.R.S.M. (See also Reports of H.M. Inspectors of Mines.)

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FUEL AND POWER

(including the Gas and Electricity Industries)

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FUEL AND POWER SUPPLIES

A GENERAL view of the fuel position in Great Britain in 1929 is provided by a table published in the 12th Annual Report of the Secretary for Mines (1932). According to this estimate the thermal value of the coal available for domestic consumption in 1929 amounted to 75 per cent of the total thermal value of all fuel available. Coke accounted for a further 14 per cent, gas and petroleum products accounted for about 5 per cent each, while the relative insignificance of electricity is brought out by the fact that it only accounted for 1·2 per cent of all fuel available. Moreover gas and coke are both produced by the carbonization of coal, and in this country electricity is almost entirely generated by the use of coal, so that coal remained the basis of all our fuel supplies except imported petroleum products. In recent years determined efforts have been made to make coal the basis of our petroleum supplies also.

While coal was much the most important ultimate source of heat, light and power in 1929, the direct utilization of coal in its raw state showed a decline of 8 per cent as compared with 1907. On the other hand, the use of gas doubled and the supplies of electricity increased six-fold during the same period. It is also significant that the thermal value of the total fuel available showed very little increase between 1907 and 1929, despite the development of new uses for fuel, such as motor transport.

With this general picture of the relative importance of the various sources of fuel supply in our minds we may now proceed to examine in more detail (*a*) the gas industry, (*b*) the electricity industry, and (*c*) the use of oil fuel.

(*a*) GAS

1. THE GAS INDUSTRY PRIOR TO 1929. Gas and coke are complementary products produced by the carbonization of coal. The carbonizing industries are, however, differentiated according to the method and the object of carbonization.

The new process of low temperature carbonization is still on

a small scale but it constitutes virtually a separate industry from the old process of high temperature carbonization. Moreover, the character of high temperature carbonization depends on whether the main object of the process is the production of gas or coke. The coke oven industry is economically distinct from the gas industry in spite of its technical similarity. Again it is important to distinguish between statutory and non-statutory gas undertakings. The former are distinguished from the latter by the possession of the statutory right of supplying gas to the public in prescribed localities, and they are subject to an extensive code of legal obligations in respect of the quality of gas, the prices charged, the profits made, and the disposal of their capital resources.[1] In 1928 the non-statutory undertakings numbered nearly 600 as compared with nearly 800 statutory undertakings. Detailed statistical information is only available

[1] In consideration of statutory powers to open roads and to lay mains, authorized gas undertakings were compelled, under an Act of 1871, to supply gas to premises within 25 yards of existing mains. The gas was also generally expected to conform as regards quality to certain old illuminating standards, but an effort had been made by the Gas Regulation Act of 1920 to substitute scientific purity and pressure requirements in the case of certain undertakings. Closely related to this reform was the attempt under the same Act to substitute a thermal basis for the old volumetric basis of charge. This attempt proved to be more successful in the case of private undertakings than in the case of local authority undertakings. (In January, 1927, 208 authorized undertakings still charged on the old basis, and of these 155 were operated by local authorities.) The only *method* of charge which had legal sanction was the flat rate charge, and the possibility of charging for gas according to a two- or three-part tariff was therefore excluded.

More important was the existence of statutory limitations on charges or profits, or both. Local Authority Undertakings were subject to either maximum charges or maximum profit schedules. Company undertakings might be subjected to both, or alternatively they might be allotted standard prices and standard dividends which entailed operation under a sliding scale whereby actual prices and dividends varied inversely one with the other. Some modification of the sliding scale system had been introduced after the war in the so-called "basic system" which, by 1933, had been extended to 17 companies producing more than 50 per cent of the gas sold by the statutory companies. (For a description of this system see The Second Interim Report of the Gas Legislation Committee, 1933.)

Authorized gas undertakings were also subject to numerous statutory conditions relating to the raising and expenditure of capital. There were limitations on the amount of capital and on the loans that could be raised. There were also restrictions on the methods of raising capital, particularly the well-known "auction clause." Finally the disposal of capital was subject to minute control, so that the purchase of shares in other gas or allied undertakings was prohibited and even the formation of joint organizations was rendered difficult.

for the authorized gas undertakings, but they constitute the largest section of the carbonizing industries. While the number of non-statutory undertakings is considerable, their aggregate output is relatively small. Moreover, the statutory gas undertakings normally produce almost the same amount of coke, and much more gas than the coke oven industry.

The authorized supply section of the gas industry showed a continuous and rapid expansion throughout the war and post-war period. Production doubled between 1884 and 1904 and it almost doubled again between 1904 and 1929, in which year a record output of 305,471,000,000 cubic feet was attained. From 1926 onwards, however, the rate of expansion seems to have been somewhat checked. The growth of production was not only relatively slow after 1926, but it was also achieved only by an increase in the number of consumers. Consumption per head actually declined from 32·9 cubic feet in 1926 to 31·7 cubic feet in 1928 and 32·0 cubic feet in 1929. Moreover, the revenue of the industry declined both absolutely and relatively to the output of gas during the same years. These facts point to a retarded expansion of demand from 1926 onwards.

The rapid expansion of the industry until 1926 was due partly to the developing use of gas for domestic and industrial heating purposes, particularly in cases where accurate and automatic control is necessary. The outcome of this development has been a notable change in the market for gas. "Gas is no longer mainly an illuminant; it is now in great demand as a fuel."[1] Taking the country as a whole about one-fifth of the total gas supplied is used for industrial purposes and in Sheffield the proportion is as high as one-half.

The expansion of the industry must also be partly ascribed to the development of the coke and by-product markets. The utilization of by-products has made possible reductions in the price of gas. The manufacture of carburetted water gas has provided a means of utilizing surplus coke, although in the industrial and domestic coke markets the gas industry has had to face increasing competition from the coke oven industry.

During the present century, however, gas has steadily been

[1] Memorandum of National Gas Council, 1926.

displaced by electricity for lighting purposes, and after 1926 the competition from the electricity industry seems to have been intensified. No doubt this was partly due to the establishment of the Central Electricity Board and to the political propaganda which was associated with its establishment. In another direction also the industry was having to face increased competition. According to the Census of Production the H.P. capacity of gas engines in use as prime movers (exclusive of electricity supply undertakings) fell from 603·5 H.P. in 1924 to 458·0 H.P. in 1930. On the other hand, the H.P. capacity of oil and petrol engines increased considerably. Thus it appears that after 1926 the possibilities of expansion were no longer sufficient to enable the gas industry to maintain its former rate of progress.

As the character of the industry was modified by changes in its markets it became increasingly hampered by the statutory restrictions imposed upon it in an earlier period. In the past these restrictions had not only been of value to consumers and shareholders, but the peculiar conditions they entailed appear to have been partly responsible for the prevalence and success of profit-sharing schemes in the industry.[1]

In view of the changed circumstances of the industry, however, a demand arose for some relaxation of these restrictions, which were making it increasingly difficult for the industry to compete on equal terms with electricity. In consequence of the limitation of dividends difficulty was experienced in the raising of new capital and it was also difficult to carry through any amalgamation schemes. On these grounds the National Gas Council addressed a memorandum to the Board of Trade in 1926 asking for numerous modifications in the law. Amongst other proposals they suggest that a minimum dividend should be introduced in the case of sliding scale companies. The Board of Trade in their turn prepared a memorandum suggesting such reforms as a more widespread use of the thermal basis of charge, the conversion of the larger non-statutory into statutory undertakings, and the

[1] "The Gas Industry affords the only instance in this country of an industry which has been largely reorganized on a profit-sharing basis. The wide extension of profit-sharing in gas works has probably been assisted by the very special conditions of the industry." See "Balfour" Committee Report on "Industrial Relations," 1926, page 324.

more rigorous enforcement of the purity and pressure requirements laid down by the Act of 1920. Both these memoranda were submitted to a sub-committee of the National Fuel and Power Committee, which in January, 1929, reported in favour of the principal changes recommended in each document.

2. THE GAS INDUSTRY AFTER 1929. The post-1929 depression in the gas industry can be studied more conveniently as a whole than chronologically. The contraction in the demand for gas experienced by authorized gas undertakings does not appear to have been serious, but it was sufficient to convert the already retarded rate of growth into a definite contraction. Sales of gas showed a decline of 2 per cent in the aggregate between 1929 and 1932, and sales per consumer declined by over 6 per cent in the same period. The gradual decline in receipts which commenced in 1926 continued after 1929, both in the aggregate and in relation to the production of gas. The proportion of profits to net capital liability showed a decline between 1929 and 1930 in the case of companies and between 1930 and 1931 in the case of local authorities.

Whilst the net contraction of demand does not appear to have been appreciable it seems that in some directions at least demand has contracted considerably. The burden of the depression has probably fallen most heavily on the demand for gas and coke for industrial purposes. The demand for metallurgical coke has naturally fallen seriously owing to the depression in the iron and steel industry.

The amount of coal carbonized and the tonnage of coke produced at coke ovens fell by 37 per cent between 1929 and 1931, but there was a slight improvement in 1932. As might be expected the greatest decline occurred on the north-east coast. In Yorkshire some relief to the coke-oven industry may be expected to follow the constitution of the South Yorkshire Gas "Grid" which will enable the coke oven industry to dispose of its surplus gas for industrial purposes in the Sheffield-Rotherham area. This scheme was recommended by the Area Gas Supply Committee which was set up in 1929, in furtherance of a suggestion made by the National Fuel and Power Committee.

In 1931 the Sheffield Gas Company secured statutory authority to proceed with the construction of the "grid."

The difficulties of the industry during the present depression seem to have been enhanced by certain external factors. The operation of the schemes for price and output control in the coal industry have increased the price of coal to public utility undertakings. This has tended to enhance the expenses of the gas industry just at the time when revenue has declined.

Moreover, the national economy campaign created serious financial difficulties for the local authority undertakings. Some of them were unable to obtain the capital required for new developments or even for necessary replacements. The net capital liability of Local Authority Undertakings actually declined between 1929 and 1931 by £1,214,000 (— 3·9 per cent). This contrasts strongly with the net capital liability of company undertakings which actually increased by £7,223,000 in the same period (+ 7·9 per cent).

Finally the period of depression has witnessed a revision of the legislative restrictions under which the industry works. In so far as the recommendations of the National Fuel and Power sub-Committee related to an extension of the thermal basis of charge, and a modification of the restrictions on the amount of capital that could be raised, they were given effect by the Gas Undertakings Act, 1929. In 1931 the Gas Legislation Committee was established in order to give further consideration to the remaining recommendations and to frame legislative proposals. The first Report of the Committee (April, 1932) recommended some relaxation of the restrictions on the disposal of capital resources so as to facilitate joint working. This proposal was given effect by the Gas Undertakings Act, 1932. The second Report of the Committee (January, 1933) suggested that the demand for a two-part tariff might be met under existing legislation, with minor amendments and by the further adoption by sliding scale companies of the "basic system" of charge. The Final Report of the Committee (April, 1933) opposed the proposal to institute minimum dividends in the case of sliding scale companies but it suggested legislative amendments to give effect to most of the other proposals which had been submitted to it. These suggestions

were embodied in the Gas Undertakings Act, 1934, which dealt particularly with the restrictions on the methods of raising capital, with the facilities for introducing two-part tariffs, with the enforcement of purity and pressure requirements, and with the compulsory imposition of statutory powers and duties on non-statutory undertakings.

Some improvements in the competitive position of the gas industry may be expected to follow this revision of the code under which the statutory undertakings operate. The post-1929 depression is important not so much on account of its magnitude as on account of the stimulus it has given to these reforms.

(*b*) The Electricity Industry

1. The Electricity Industry before 1929. It has been pointed out above that, although electricity was still relatively insignificant as a source of fuel and power in 1929, its supply had nevertheless expanded more than sixfold since 1907. Detailed statistical information is, however, only available for the post-war period and relates, as in the case of the gas industry, only to those undertakings which have statutory powers of public supply. These undertakings are responsible for about two-thirds of the total supply and the proportion is probably increasing.

The generation of electricity by authorized undertakings more than doubled between 1920–21 and 1929–30. In the latter year over 10,000,000,000 units were generated. The expansion was most marked in sales for lighting and domestic purposes, which increased four-fold during the post-war period, partly at the expense of the gas industry. Sales for power purposes although exceeding those for all other purposes did not expand so rapidly and were adversely affected by the trade disputes in the coal industry in 1921 and 1926.[1]

After 1926, however, power sales began to expand more rapidly and this points to an increase in the electrification of industrial processes—a conclusion which is borne out by the fact that power

[1] The coal industry purchases more electricity than any other industry, despite the fact that it also generates more itself. According to the Census of Production, 1930, the coal industry was responsible for 12 per cent of the electricity purchased, and 32 per cent of the electricity generated by industry.

applied electrically increased between 1924 and 1930 from 48 per cent to 61 per cent of the total power applied in industry. Some of the post-war development was also due to the enterprise of the power companies in making supplies more generally available outside the large industrial areas.

The post-war expansion of the industry has apparently been accompanied by a considerable and progressive reduction in prices. The average revenue per unit of electricity sold in 1929–30 was 44 per cent less than in 1921–2, and the decline in the average revenue per unit sold for lighting and domestic purposes has been more persistent and more regular than that per unit sold for power purposes. The decline in prices represents a considerable reduction in costs, and this in turn may have been partly facilitated by the fuller utilization of capacity consequent upon the great increase in output. On the other hand, the demand for electricity has been greatly stimulated by the reduction in costs and prices effected by the introduction of more efficient plant, and by the reorganization of the conditions of supply. After the war the industry undertook a large programme of plant replacement and extension. Notable improvements were also effected in the efficiency of generating plant, and particularly of steam turbines, so that between 1920–21 and 1929–30 there was an increase of over 70 per cent in the amount of electricity generated per ton of coal and coke consumed. During the same period the average K.W. capacity per station more than doubled, but the possibilities of linking up stations and of closing the less efficient were limited by the existence of many different systems, frequencies and voltages, and by the heterogeneous character of existing organizations and the multiplicity of interests involved. It was technically difficult, and politically and financially impracticable for the industry to undertake any thorough-going reorganization on its own initiative.

The Acts of 1919 and 1926 have done much to facilitate the necessary developments. Under the Act of 1919 the Electricity Commission was set up with the duty of "promoting, regulating and supervising the supply of electricity in Great Britain." The Commissioners might create "Electricity Districts" each under the administration of a "Joint Electricity Authority" or

"Advisory Board." But there were no compulsory powers to establish such authorities and after four years only seven districts had been definitely determined. Whilst this Act failed in its main object the Electricity Commissioners undoubtedly did much to educate opinion both within and without the industry as to the necessity for more fundamental changes. The Act of 1926 provided an obligatory basis for the co-ordination of generation through the instrumentality of a new public body, the Central Electricity Board, established as an authorized undertaker for the whole of Great Britain. It provided for the co-ordination of generation on a comprehensive basis by vesting the Board with power to control and purchase the output of stations operated on its behalf by the owners. The Act made provision for the preparation by the Commissioners, and for the adoption and operation by the Central Board, of regional schemes. The schemes were to determine what generating stations were to be used or constructed for the purposes of the Board ("selected stations"), and were also to provide for the inter-connection of selected stations with one another, with the systems of authorized undertakers, and with the systems of adjacent regions. Provision was also made for such temporary arrangements as might be necessary before the schemes came into full operation. Good progress was made with the formulation of area schemes and at the end of 1929 only three schemes remained to be submitted to the Board. Meanwhile, the work of construction was already well advanced in some areas, and the Central Scotland scheme was nearly completed at the end of the year.

Although the developments outlined above did much to reduce costs, there was naturally an increase in distributive and administrative charges. These items rose from 40 per cent of the total working expenses in 1922–3 to 49 per cent in 1929–30. Similarly, although the number of men employed by the industry increased from 36,359 in 1922–3 to 61,620 in 1929–30, the increase in respect of generation was only 2413 during the same period. The remainder of the increase was in respect of distribution and administration. Such a development was, however, the only alternative to the multiplication of small and expensive stations.

The post-war development of the industry resolved itself

into the question of co-ordinating the expansion of an existing industry and adapting it to the new demands that were being made upon it.

2. THE ELECTRICITY INDUSTRY SINCE 1929. Immediately before the onset of the industrial crisis the industry was in a peculiarly strong position for potential development. The development of the "Grid" system of the Central Electricity Board and the consequent linking of existing and new "selected" generating stations with one another was likely to result in an up-to-date system of standardized generation and trunk transmission which would be both flexible and efficient, and capable of extension as and where necessary for providing the electrical requirements of the country. In spite of remarkable expansion in the previous decade, the potential consumption still seemed to offer great possibilities, as indicated by the Commisson's estimate in 1928 of an average *per capita* consumption in 1941 of 448 units compared with an actual consumption in the year of estimate of 171 units per head.

During the past four years the electricity supply industry has been able to maintain an enviable and unique record of continuous expansion, not only as compared with other industries in Great Britain, but also as compared with the electricity supply industry in other countries. In the year ended March, 1933, output was about 20 per cent greater than in the year ended March, 1930. Nevertheless, whereas output in 1929–30 had been 11·1 per cent greater than in the previous year, the increase in 1930–31 was only 5·2 per cent and in 1931–32 was only 4·9 per cent. The rate of growth of the industry was thus seriously retarded, but the situation began to improve in 1932. The output for 1932–33 was 7·7 per cent greater than in the previous year, and development was still further accelerated during the latter part of 1933. The retarded growth of the industry may be traced to the fact that power sales ceased to expand and in 1930–31 actually showed a slight decline for the country as a whole. Domestic sales have continued to increase unchecked, but in the industrial areas of Scotland and North-East England, the contraction in power sales was so serious that the increase in domestic sales was insufficient to prevent a decline in output during two successive years. Even in these areas, however, some improvement was

apparent during 1932. Not only did sales for power purposes cease to expand after 1929 but the average revenue per unit sold for power purposes ceased to decline as it had done since the war. Consequently the decline in the average revenue per unit sold for all purposes was also checked. This apparent stability contrasts strangely with the rapid fall in prices in most other industries and is presumably to be ascribed to the methods of charge adopted, industrial consumers being unable to secure the rebates obtainable by taking large supplies in bulk.

The displacement of gas for lighting and domestic purposes by electricity seems to have added to the stability of the latter industry at the expense of the former. For the rest, however, there is considerable similarity in the way in which the industrial depression has affected the two industries. The price of coal has been increased to electricity supply undertakings as well as to gas undertakings. This may partially account for a decline in the proportion of electricity generated by steam plant from 97·6 per cent in 1929–30 to 95·5 per cent in 1931–32. Secondly, the economy policy adopted by many local authorities has resulted in the deferment of schemes for development and some diminution in the orders for electrical plant and equipment which might have been advantageously placed at a time when the costs of the raw materials were particularly favourable.

Finally, the depression seems to have accelerated the process of reorganization. Some benefit has been derived from the Development (Loan Guarantee and Grants) Act, 1929. The Regional ("Grid") Schemes such as those for Central Scotland and Mid-East England (Yorkshire) have been pressed forward as rapidly as possible and in advance of normal development, with the intention of being prepared for the resumption of more normal industrial conditions and also for the purpose of relieving unemployment.

The "Grid" as initially planned was completed in the autumn of 1932, roughly five years after its commencement. Only North Scotland now remains beyond its range. The Central Electricity Board commenced general trading in Central Scotland and Mid-East England on 1st January, 1933, and in South-East England and North-West England on 1st January, 1934.

The development of these schemes was accompanied by a further increase in the proportion of administrative and distributive charges. The number of men employed on generation actually declined by about 900 between 1929–30 and 1931–32, but the numbers employed in distribution and administration increased by about 7000.

The period of depression has thus witnessed a fundamental transformation in the conditions under which the electricity supply industry operates.

(c) The Use of Oil Fuel

In Great Britain oil is the only readily available alternative to coal as an ultimate source of heat, light and power, and we have seen that in 1929 oil only accounted for 4·6 per cent of the thermal value of all fuel available, although it had increased from 0·9 per cent in 1907. The consumption of petroleum products in Great Britain in 1929 was about 1,890,000,000 gallons, including 850,000,000 gallons of motor spirit, and 550,000,000 gallons of fuel and diesel oil, nearly half of which was shipped for foreign bunker purposes. The relative insignificance of oil fuel for industrial power purposes is confirmed by the 1930 Census of Production, which shows that petrol and oil engines only represented 3½ per cent of the total H.P. capacity of the prime movers in use in industry. The use of oil fuel for road transport purposes could hardly be regarded as displacing coal, for although road competition had resulted in some curtailment of railway services, yet on the other hand, the motor industry was directly and indirectly a great potential consumer of coal. Only for bunker purposes had coal been displaced seriously by oil fuel. Of a gross world shipping tonnage of 664,000,000 tons in 1929, 39 per cent was propelled by the use of oil. Much of the oil-propelled tonnage, however, represented an addition to total tonnage rather than a reduction of coal-using tonnage which was only being displaced slowly in the years immediately preceding 1929. In the same period the decline in the shipments of coal for bunker purposes from British ports was relatively small. Thus a position of some stability appeared to be approaching even in this field of competition.

The effect of the post-1929 depression did not make itself generally felt on the consumption of oil until 1931. In 1930 consumption was 12 per cent greater than in 1929, but in 1931 consumption was only 6 per cent above the 1929 level. Prices also showed a marked decline. In 1932 there was a considerable improvement in the consumption of motor spirit, and this resulted in a slight rise in the aggregate oil consumption, despite a continued decline in the consumption of most other petroleum products. However, there seems to have been a general increase in prices in 1932, although the increase was in no case sufficient to restore the 1930 level of prices.

Thus the consumption of oil during the depression has not continued to increase without interruption, like that of electricity. The decline, however, manifested itself later than that of gas and coal, and in the case of motor spirit there was a more rapid recovery. In the aggregate the decline in the consumption of oil was of far less magnitude than that of coal, but the shipment of coal from British ports for bunker purposes declined by only 13 per cent between 1929 and 1932, whilst that of oil declined by 26 per cent. Moreover, oil prices have not been so well maintained as coal prices.

The period of depression has been important in another respect. It has witnessed an intensification of the efforts to manufacture motor spirit and oil fuel from coal by the Hydrogenation and Low Temperature Carbonization processes. The government has endeavoured to stimulate the development of these processes partly by initiating and encouraging research work and partly by fiscal protection. The amount of crude spirit obtained by these processes in 1932 was about 500,000 gallons, but it has increased steadily and may ultimately provide an important new market for the depressed coal industry.

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THE RAIL TRANSPORT INDUSTRY

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THE RAIL TRANSPORT INDUSTRY

To trace the effect of the world crisis on the railway industry is no easy matter; first because depression set in in some industries in the early years of the post-war period, whilst in others considerable economic activity prevailed until the depression became world-wide in 1930–1931; secondly because the competition of other modes of transport has become increasingly marked throughout the post-war period. Prior to the war the railways enjoyed almost undisputed everywhere the main inland transport work of a country. Their prosperity fluctuated only with the fluctuations of their internal and foreign trade. Inland waterways in certain countries, such as Germany, France, and Holland were, it is true, active competitors with them for certain kinds of traffic, chiefly heavy or bulky goods of comparatively low value for which time in transit was a factor of little economic importance. So, too, vessels plying coastwise were in active competition with the railways in Great Britain. But whenever time was of importance—and it has become increasingly so under modern economic conditions—neither canals and other inland waterways nor coastwise vessels could offer effective competition with railways.

Yet even before the war a new competitor was appearing on the horizon. Improvements in internal combustion engines showed, first in the private motor-car, later in the goods vehicle, that transport by road was not only a possible alternative to rail transport, but that for some needs it might prove superior. Indeed, the internal combustion engine has made possible the advent of a third competitor in the form of aircraft.

These new modes of transport received an enormous impetus during the war. Their development for war purposes was rapid. Their possibilities became evident. Thus the railways on the termination of the war found these new competitors appearing in numbers, ready equipped and with a wealth of experience on the technical side to help them in the struggle which has ensued.

The demobilization of large numbers of skilled drivers and mechanics and the sale at low prices of large numbers of army vehicles accentuated it. Nor were the railways too well prepared. In the combatant countries, at least, their equipment and organization had become impaired during the war.

The post-war history of the railways is therefore a complex one, compounded of the results of these two factors, trade depression and competition with rival modes of transport. In Great Britain and a few other countries both these forces have been operating together since the depression of 1920–1921. In others, as in the United States, Germany, and France, in spite of increasing competition with road transport, railways were securing a greater volume of traffic and for many of them the period about 1929 was a record one.

It is well-nigh impossible to disentangle the effects of the depression from the effects of the competition with road and other modes of transport. A study of the following table makes it clear that the position of railways in the years 1930–1934 is not due solely to the world crisis, if the growth of road transport in other countries is at all comparable with its growth in Great Britain.

TABLE I

1929 = 100

	1929	1930	1931	1932	1933	1934
Index of World Trade:[2] Imports and Exports.						
Value. . . .	100	80·8	57·7	39·1	35·2	33·8
Volume . . .	100	92·8	85·3	73·9	74·9	75·3
Index of World Production:[2]						
Coal	100	91·5	80·2	71·3	74·3	81·5
Index of World Production:[2]						
Steel Ingots and Castings.	100	78·9	57·8	42·3	56·6	68·3[1]
Index of Nos. of Road Motor Vehicles (Great Britain):[3]						
Passenger (excl. Motor Cycles)	100	107·3	108·5	112·4	119·4	129·2
Goods	100	105·7	109·3	112·2	117·5	125·3

[1] Provisional.
[2] Bulletin of Statistics, April, 1935 (League of Nations).
[3] Census, Ministry of Transport.

Let us then pass to a study of what the experience of the railways has been during the period 1929–1933 as revealed in their operating statistics. That it has been largely the same in countries with widely differing characteristics is shown in the following table of receipts and expenditure on the chief European railways. It must, however, be remembered that 1929 was a relatively prosperous year in most countries, and that some decline from the figures of that year might have been expected, if we regard it as a peak year in a trade cycle.

TABLE II[1]

CERTAIN EUROPEAN RAILWAYS. RECEIPTS, EXPENDITURE, AND NET RAILWAY REVENUE, 1929–1934

(The figures are in millions)

RAILWAY	CURRENCY		1929	1930	1931	1932	1933	1934
Belgian National Railway	Francs	Rec.	3546·7	3528·5	3090·7	2452·0	2329 9	2215·2
		Exp.	3066·8	3208·4	3023·9	2620 5	2343·0	2263·2
		Net R.	479·9	320·2	66·8	- 168·5	- 13·0	— 48·0
Czecho-Slovak State Railways	Crowns	Rec.	4888·5	4628·5	4363·0	3490·4	3154 4	2241·4
		Exp.	4447·2	4521·1	4183·9	4043·0	3689·4	2357·9
		Net R.	441·3	107·4	179·0	— 552·7	535·0	— 116·5
French Main Line Railways	Francs	Rec.	16110·0	16032·1	14584·6	12428 8	11707 9	11072·9
		Exp.	12669·0	14159·7	13902·8	12797 3	12197·9	10988·6
		Net R	3441·0	1872·3	681·8	— 368·5	— 490·0	84·3
German Railway . .	Reichsmark	Rec.	5353·8	4570·3	3848·7	2934 3	2920·6	3324·8
		Exp.	4493·5	4090·4	3622·5	3001·1	3056·6	3302·3
		Net R.	860·3	480·0	226·2	— 66·8	— 136 0	22·5
British Main Line Railways	Pounds Sterling	Rec.	182·8	172·6	158·5	145·3	145·3	151·1
		Exp.	143·7	139·5	128·5	121·3	119·4	122·9
		Net R.	39·1	33·1	30·0	24·0	25·9	28·2
Italian State Railways .	Lire	Rec.	4980·7	4600·1	3853·5	3345·9	3055·9	3013 6
		Exp.	4379·8	4124·7	3573·5	3218·5	3190·1	3837·9
		Net R.	600·9	475·3	280·0	127·4	— 134·3	— 824·3
Jugo-Slav State Railways	Dinar	Rec.	2680·3	2655·3	2382·0	1975·8	1907·5	[2]
		Exp.	2688·4	2732·3	2542·5	2069·4	1922·2	
		Net. R.	— 8·1	— 77·0	— 160·5	— 93·6	— 14·8	
Polish State Railways .	Zlsty	Rec.	1596·9	1458·9	1294·0	1009·1	868·0	[2]
		Exp.	1413·9	1331·5	1187·0	936·0	810·7	
		Net R.	183·0	127·4	107·0	73·1	57·3	
Swedish State Railways .	Crowns	Rec.	208·1	201·6	181·2	166·1	166·1	183·8
		Exp.	158·9	157·4	156·6	153·3	150·2	155·2
		Net R.	49·3	44·2	24·6	12·8	16·0	28·6
Swiss Federal Railways .	Francs	Rec.	431·4	420·5	389·5	343·0	336·6	332·6
		Exp.	280·4	291·4	283·3	273·3	247·1	235·9
		Net R.	151·0	129·1	106·2	69·7	89·5	96·7

It will be noticed that the general trend of the figures is the same in each country, widely different as the countries are in

[1] By courtesy of the Railway Research Service

[2] Not yet available.

their general economic structure. The Jugo-Slav railways show a deficit in each of the five years, which is greater in 1931 than in 1932 or 1933. But without exception all the countries have experienced a steady, and in most cases, a marked diminution of receipts, though in the case of Great Britain and Sweden the receipts in 1933 were equal to those in 1932. The fall in receipts on the British railways, serious though it is, is not so great as in most of the other countries; but it must be remembered that in Great Britain railway receipts had been falling almost continuously since 1923, whereas in many other countries they had been rising up to 1929. This is an interesting point of difference. It must be remembered that in most of these countries there was a tremendous amount of reconstruction work to be done at the close of the war, and it would appear as if this had been sufficient to outbalance any loss of traffic due either to other modes of transport or the world economic situation. The expenditure in each case has been reduced, comparing 1931–1933 with either 1929 or 1930, but not proportionately to the diminution of receipts. Railway net revenue in each case, therefore, suffers a steady reduction. Five countries actually experience a deficit in 1932 and 1933, whilst Italy has a deficit in 1933 though not in 1932. Sweden's net revenue is greater in 1933 than in 1932, and both Belgium and Jugo-Slavia's deficit is less, all three, therefore, showing some improvement in 1933 compared with the preceding year. The loss on the French main lines in 1933 amounted to no less than 490 million francs, whilst the losses on the Germany Railway and the Italian State lines amounted to 136·0 million marks and 134·3 million lire respectively.

The financial position of these railways is therefore an anxious one for the companies or States concerned. Even where no actual loss has been incurred, the net revenue has been so reduced that an adequate return on the capital invested in the railways is not earned. The problem, therefore, of raising fresh capital for extensions or improvements is rendered all the more difficult, quite apart from any consideration of the shareholders. And on many railways there is urgent need of new equipment or improvements generally, in which may be included electrification. Where

the lines are State-owned and are incurring deficits, the problem is an awkward one for the national Exchequer.

As has been observed, diminution in net revenue has taken place despite the very considerable reductions in expenditure. Thus the German Railway and the Italian State Railways have reduced their expenditure from about 4400 millions to 3000 millions, but in neither case has the reduction saved them from incurring a deficit. Staffs have been everywhere reduced. On the British main lines, including the Railway Clearing House, the staff which in 1921 was 735,870, had fallen to 642,137 in 1929, to 615,592 in 1931, and in 1933 to 566,300. It increased to 575,048 in 1934. The staff on Class I steam railways of the United States of America, which in 1929 amounted to 1,660,850, had fallen to 1,258,719 in 1931, and to 971,196 in 1933.

As is well known, railway expenditure does not normally increase, or diminish, proportionately to changes in the volume of traffic. Apart from improvements in equipment or methods of working, expenditure cannot be reduced proportionately as traffic declines. The fact that railway expenditure on the British Railways has been reduced almost in proportion to the reduction in receipts—24 per cent from 1923 to 1933 as against 26 per cent reduction in receipts—shows that the British Main Line Railways have tried to meet the situation by a thorough reorganization of methods, and to a certain extent of equipment. In the other countries, too, though not always with the same degree of success, extensive economies in organization, modes of working, and general operation costs have been instituted in order to relieve the position. Nevertheless the broad fact emerges that in each of the countries we have been considering the volume and value of traffic carried by the railways in the years 1930–1933 is insufficient, having regard to their size and the magnitude of their inevitable overhead costs, to enable them to earn sufficient net revenue to pay a reasonable return on their capital, even if they can avoid incurring a loss. This is the outstanding fact in the railway position to-day.

It is obviously impossible in such a chronology as this to examine the history of each country's railways in detail. Let us, therefore, take as examples the main line railways of Great

Britain and France, the Class I steam railways of the United States of America, the Central Argentine railway, and the State lines of South Africa, New Zealand, and Japan. These seven countries show, it is hoped, sufficient diversity in their size, geographical position, and economic structure, to permit their use as examples of what has been happening in a broad general way to railways in all parts of the world. It has been found impossible to give completely analogous statistics for all these seven countries and their railways, since the information is not available or at least not accessible. But as far as possible this has been done.

In each of the tables which follow the results of the working of the railways are given, preceded by certain statistics, which have had to be kept to a minimum, showing the general trend of trade in the country concerned.

Beginning, then, with Great Britain, it will be seen from Table III (p. 197) that the total railway receipts have fallen by no less than 20·5 per cent from 1929 to 1933. The biggest decline has been in the carriage of live stock (35·7 per cent), and there is little doubt that it is chiefly attributable to the competition of road motors, many of which are specially constructed, often in two and even three tiers, for this class of work. Passenger traffic, which up to 1931 had been falling more rapidly than either general merchandise or coal and other minerals, shows over the five years a diminution of 17·7 per cent, as compared with 22·8 per cent for coal and other minerals and 25·3 per cent for general merchandise, with a slight increase in 1934.

The diminution in the case of coal is almost certainly chiefly due to the reduction in the output from the mines which fell from 258,000,000 tons in 1929 to 207,000,000 tons in 1933, though some, at least, is due to the competition of coastwise vessels, and even of road transport. The decline of 25·3 per cent in general merchandise is due both to the depression and to road competition, for though exports show a considerable diminution in the years 1930–1933, the index of imports and of production generally shows much less reduction.

Road competition has been of increasing intensity during the five years. Though complete figures are not available, there

TABLE III

GREAT BRITAIN: MAIN LINE RAILWAYS

	1929	1930	1931	1932	1933	1934
Index of Production (London & Cambridge Economic Service) (1924 = 100)	115 2	105·8	96 6	98 2	106 7	119 8
Foreign Trade. Board of Trade Index of Volume (1924 = 100)—						
Imports	114 0	110 0	113 2	99·4	100·9	106·8
Exports	108·3	86·2	66·0	66 2	67·9	72·8
Great Britain. Total Output of Coal (Million tons)	258	244	219	209	207	214
Unemployment. Per Cent of Total Insured Persons	10 4	16 1	21 3	22 1	19 9	16·8
Road Motor Vehicles—Motor Cycles	731,298	724,319	626,649	599,904	562,656	548,461
Passenger Carrying Vehicles	1,078,883	1,157,345	1,170,921	1,212,631	1,288,322	1,393,554
Goods Vehicles	329,794	348,441	360 614	370,100	387,487	413,320
Total	2,195,712	2,287,326	2,213,722	2,239,567	2,297,326	2,416,908
MAIN LINE RAILWAYS—						
Total Railway Receipts (Million £)	182·8	172·6	158 5	145·3	145·3	151·1
Total Railway Expenditure (Million £)	143·9	139·5	128 5	121·4	119 4	122·9
Total Railway Net Revenue (Million £)	38·9	33·1	30 0	24·0	25·9	28·2
Operating Ratio	78·74	80·80	81 10	83·51	82·15	81·32
Receipts: Passengers (Million £)	60·0	57·0	52·4	49·2	49·4	50·6
Parcels (Million £)	17·5	17·5	16·8	15·9	16·0	16·1
Merchandise (Million £)	49·0	45·5	41·8	36·8	36 6	38·3
Minerals (Million £)	16·2	14·6	12·3	10·3	11·3	12 9
Coal (Million £)	36·5	34·6	32·1	30·4	29·4	30·8
Livestock (Millions £)	1·85	1·80	1·56	1·37	1·19	1·23
Miscellaneous (Million £)	1·69	1·61	1·50	1·38	1·19	1·43
Interest per Cent of Capital Receipts	4·11	3 66	3·17	2·58	2·76	2·97
Number of Passenger Journeys (Millions)	1,187	1,161	1,097	1,069	1,084	1,128
Average Length of Journey (Miles)	15 78	15·32	—	15·13	—	16·65
Tonnage of Merchandise and Live Stock (Million tons)	81·2	75·9	68·3	61·3	61·4	63 1
Ton-miles of Merchandise and Live Stock (Million miles)	5389·3	5098 6	4693·7	4251·4	4338·9	—
Average Length of Haul—Miles (all Descriptions of Goods) L.N.E R.	41 04	41·94	43 34	42·00	42·07	42·23

For some of the above figures I am indebted to the Railway Research Service.

are indications that the average length of haul of goods traffic has been increasing and this seems to show that an increasing amount of short haul traffic has been lost to rail transport.

It may be worth while to digress a moment here and show why coastwise transport has been a more active competitor with the railways in recent years. Coastal shipping rates are some 16 per cent below their pre-war level, chiefly due to the severe depression in the freight market. A recent important development is the evolution of Diesel-engined shallow draught vessels capable of working into the river mouths and smaller ports of the country. This kind of ship is now penetrating to such places as Norwich, Colchester, York, Selby, Lancaster, Bridgwater, Gainsborough, Truro, Penryn, Exeter, and Totnes. The use of such craft has, for example, transformed Norwich as a port, and no less than 30,000 to 40,000 tons of sea-borne coal are being carried into Norwich annually, whereas a few years ago the port was but little used. Though the total number of ships engaged in this coastwise traffic has decreased owing to the scrapping of the older vessels, the new power-driven vessels are of larger size, and though of some 1400 tons dead weight they have a draught under full load of somewhat under 14 ft., and can therefore enter ports formerly used only by the smallest coastal vessels. These ships are fitted with the most modern equipment for the handling and stowage of cargo, and are therefore independent of dock facilities—the absence of which was often a bar to any increase of this traffic. It is true to say that the shallow-draught coasting trade of Great Britain is being rapidly revolutionized. A similar development on the French canals will be referred to later.

To revert to Table III it will be seen that mails and parcels by passenger train show the smallest decline in the five years—namely 8·6 per cent. The reason for this relatively small decline in parcels traffic is chiefly due to the fact that many traders require the fastest possible service. Air transport except for certain valuable kinds of goods—gold for example—is as yet too expensive and not sufficiently regular or widespread. The modern trader faced with the need of keeping a widely varied stock, more than ever liable to depreciate through sudden changes of fashion, and not able or willing to increase the capital invested in stock,

is forced to keep relatively small stocks of each article, which he must be able to replenish if need be with the smallest possible delay. His need is to be able to get goods at the latest the day following his telegram to the wholesaler or maker. Any slower service fails to meet his need. Consequently in spite of higher charges when goods are sent by passenger instead of goods train, the carriage of parcels by passenger train has suffered a much less reduction than general merchandise; and the railways have taken special steps to encourage this class of traffic.

Unlike many railways the British main lines continue to show an appreciable total net revenue, but the fall in the amount which this forms per cent of the total capital receipts is shown by the fall of interest from 4·11 in 1929 to 2·58 in 1932 and 2·76 in 1933.

TABLE IV

FRANCE. MAIN LINE RAILWAYS, INCLUDING THE TWO STATE LINES

	1929	1930	1931	1932	1933
General Index of Production (1928 = 100)	109·4	110·2	97·6	75·6	84·3
Foreign Trade (Merchandise only)					
Imports (Million frs) monthly av.	4852·0	4376·0	3517·0	2484·0	2369·0
Exports (Million frs.) „ „	4178·0	3570·0	2536·0	1642·0	1536·0
Output of Coal:					
Metric tons (Millions) „ „	4·48	4·49	4·17	3·86	3·91
Unemployment:					
Applications for Work	10,052	13,859	75,215	308,096	307,844
In Receipt of Benefit	928	2,514	56,112	273,412[1]	276,033[1]
Railways:					
Receipts (Million frs.)	15907·5	15809·9	14377·9	12256·1	11585·9
Expenditure (Million frs.)	12509·8	13964·7	13670·3	12616·6	12040·2
Net Revenue (Million frs.)	+ 3397·7	+ 1845·2	+ 707·6	− 360·4	− 454·3
Operating Ratio	79·0	88·37	95·12	102·00	103·9
Staff, All Grades	506,013	507,572	477,562	458,241	441,498
Financial Results (Million frs.)	+ 325·0	− 1297·0	− 2625·0	− 3688·0	− 3977·5
Receipts:					
Passengers (Million frs)	3195·6	3325·3	3175·0	2675·5	2614·4
Merchandise—					
Grand Vitesse (Million frs.)	1784·0	1970·3	1964·9	1754·2	1632·0
Petite Vitesse (Million frs)	10054·4	10171·6	8955·5	7611·4	7131·7
Miscellaneous (Million frs.)	—	342·6	282·1	215·0	207·9
No. of Passengers carried. Millions	772·3	794·7	776·8	709·5	665·3
No. of Pass.—Kms. (Millions)	28085·1	29124·0	28867·7	25446·4	24583·1
Average Journey (Km.)	—	36·64	37·16	35·86	36·9
No. of Tonnes carried, *Petite Vitesse* (Millions)	313·5	307·9	272·4	226·9	220·0
No. of Tonnes—Kms. (Millions)	43040·8	42050·4	38466·2	32572·4	31739·8
Average Haul	—	137·10	139·70	143·15	144·28

Though the position of the railways in Great Britain is an anxious one, that of the French, and particularly of the State

[1] Since 1932 the figure includes those in receipt of benefit from Social Welfare Offices.

line (État), is very considerably worse. Receipts have fallen no less than 27·2 per cent from 1929 to 1933, whilst expenditure has been but little reduced from the 1929 level. The result is that the net revenue which was 3397·7 million francs in 1929, became a deficit of 360·4 million francs in 1932 and 454·3 million francs in 1933. Provisional figures for 1934 show a small surplus of about 84 million francs and a reduction of the operating ratio from 103·9 to 99·23. The main line companies, taken together, show a surplus for each of the five years (though individually some had a deficit in 1932 and 1933), but it fell from 2962 million francs in 1929 to 16 million francs in 1933. The two State lines taken together show a deficit for each of the years 1930–1933 which increased from 40·5 to 470·4 million francs. Of the two State lines the État is in a definitely worse position than the Alsace and Lorraine. The chief cause of the relative weakness of the État railway is that it serves an agricultural rather than an industrial area, and its receipts for general merchandise and passenger traffic are relatively low. The household economy of the peasant is more nearly self-sufficing than that of the industrial worker.

The deficit of the French railways, which is accentuated by the steady rise in fixed interest charges, has risen from 1297 million francs in 1930 to 3978 million francs in 1933. To this sum must be added the annuities in respect of the redemption of losses incurred in the years 1921–1925. These amounted in 1933 to 410 million francs, thus bringing the total deficit for 1933 to 4388 million francs. This deficit should legally be covered by the Common Fund of the French railways but this fund was itself practically in deficit, and hence the total deficit was increased during 1933, so that by 31st December, 1933, it stood at 13,463 million francs.[1] The plight of the French railways is therefore grave.

The diminution in railway receipts of 27 per cent is probably due chiefly to the depression and not to road or canal competition, for as will be seen from the table the general index of production (1928 = 100) as given in the monthly *Bulletin of Statistics* of the League of Nations,[2] has fallen from 109·4 in 1929 to 84·3 in

[1] *Railway Research Service Bulletin*, May, 1935. [2] April, 1935.

1933, a fall of about 23 per cent, whilst imports have declined by at least 50 per cent and exports by 63 per cent. Goods traffic has declined rather more sharply than passenger traffic. The loss of Grande Vitesse goods traffic is slightly greater per cent than of Petite Vitesse, and this difference is probably due to road competition which tends to "skim the cream of the traffic." The competition of the canals, which is becoming keener owing to their greater use of motor barges and electric traction, is probably the reason why the average length of haul has been steadily rising in recent years; for in the case of petite vitesse traffic it is the short haul traffic which tends to be lost. The staff on the French railways has been reduced by about 13 per cent in the five years under review.

Let us now pass to America and consider the railways of the United States and the Central railway of the Argentine. (Tables V and VI.)

The General Index of Production of the U.S.A. has fallen from 107·2 in 1929 (1928 = 100) to 57·7 in 1932 and 68·5 in 1933, a fall of between 36 and 46 per cent. Imports and exports have each fallen to less than one-third of their former value, whilst the output of coal has diminished by between 37 or 41 per cent. Unemployment has been rife. Railway receipts have fallen to less than half their amount in 1929, a definitely good year, and expenditure has fallen almost in the same proportion, whilst the staff employed is only a little more than half its former amount. The operating ratio shows therefore only a slight increase.

In the main, therefore, the diminution in railway receipts must be ascribed to the depression, though road competition, especially in certain areas, is by no means negligible; and in this connection the increase in the average haul of goods traffic from 182 to 198 miles is not without significance. Passenger traffic would seem to have suffered more in proportion than goods traffic, though the decrease in the number of passengers, as distinct from passenger receipts, is less than the reduction in the tons of goods carried. But it will be noticed that the average length of journey has appreciably declined.

The financial results are seen in the rate of dividend, calculated on all stock, which has fallen from 5·80 per cent in 1929 and 6·14

TABLE V

United States of America. Class I. Steam Railway Companies (Excluding Switching and Terminal Companies)

	1929	1930	1931	1932	1933
General Index of Production, U.S.A. (1928 = 100)	107·2	86 5	73·0	57·7	68·5
Foreign Trade, U.S.A. Merchandise only—					
Imports (Million $) Monthly average.	361·55	259·51	174·04	110·42	119·42
Exports (Million $) ,, ,,	429·76	315·10	198 17	131·35	137·27
Total Output of Coal, U.S.A. (Metric tons Millions). Monthly average	46·0	40 6	33·4	27·2	29·0
Unemployment. Trade Union Returns. Weighted (Per Cent)	8·3	15·1	19 3	24·1	24·0
Employment. Employers' Returns (1929 = 100)	100·0	87·3	73 9	61 2	65·8
Railways—					
Total Railway Receipts (Million $)	6279 5	5281·2	4188·3	3126·8	3095·4
Total Railway Expenses (Million $)	4506·1	3930·9	3223·6	2403·4	2249·2
Total Railway Net Revenue (Million $)	1773·5	1350·3	964 8	723·3	846·2
Operating Ratio	71·76	74·43	76·97	76·87	72·66
Staff, All grades (Thousands)	1660·8	1487·8	1258·7	1031·7	971·2
Receipts: Freight (Million $)	4815·4	4075·7	3248·8	2446·9	2488·8
Passenger[1] (Million $)	880·1	734·6	554·7	379·3	331·1
Mails, Express Parcels and other Passenger Train Traffic (Million $)	315·8	239·1	196·2	156·0	141·6
Milk (Million $)	35·9	32·2	29·1	24·3	17·3
Switching (Million $)	68·8	57·6	46·1	36·1	39·3
Special Service Train (Million $)	2·1	1·6	1·6	0·9	0·75
Other Freight Train (Million $)	0·7	1·1	2·8	3·1	2·7
Miscellaneous Water Transfers (Million $)	8·3	7·3	6·7	5·7	5·3
Number of Passengers Carried (Millions)	780·5	703·6	596·4	478·8	433·0
Number of Passenger—Miles (Millions)	31074·1	26814·8	21894·4	16971·0	16340·5
Average Passenger Journey (Miles)	39·81	38·11	36·71	35·44	37·7
Number of Revenue Tons Carried (Million tons)	2451·6	2063·1	1605·0	1168·3	1258·8
Number of Revenue Ton-miles (Millions)	447321·6	383449·6	309224 9	233977·0	249223·2
Average Haul (Revenue Goods)[2] (Miles)	182·46	185·86	192·66	200·27	198·0
Rate of Dividend to All Stock (Per Cent)	5·80	6·14	4·08	1·51	1·60

[1] Includes excess baggage, sleeping cars, parlour chair hire.

[2] On the system of each Company.

in 1930 to 1·51 in 1932 and 1·60 in 1933, which is definitely worse than the percentage return on the British main line railways.

The position on the Argentine railways, if one may judge by the results of the Central Argentine Railway, which is a very well managed railway, is not nearly so bad as in the case of the United States. Comparative statistics, as far as they are available, are given in the table on page 204.

The railway figures are for the company's financial year which ends on 30th June each year. The statistics showing the trend of trade are for the preceding calendar year. Thus there is a lag of six months in each case. The only index of production given in the monthly Bulletin of the League, is that for the output of petroleum, and this shows, as might be expected, an increase of about 46 per cent. Exports have, however, declined to about half their value in 1929 and imports to less than half. But railway receipts though they have shrunk, have not fallen to anything like this extent, though the net revenue is but little more than half its former amount. The diminution of receipts is about 23 per cent. Goods traffic has suffered less than passenger traffic, the tonnage of goods carried in 1933–4, though less than in 1930–1 and 1931–2, being actually greater than in 1929–30. Unfortunately figures are not available to show the average haul or the total ton-mileage.

We pass now to consider the South African State railways. (Table VII.)

The only statistics available which give an indication of the trend of trade activity in South Africa are the index of building activity and the output of coal. As might be imagined the former is somewhat variable, and cannot be taken as a guide. The output of coal shows a steady fall from a monthly average of 1,052,000 metric tons in 1928–9 to 872 metric tons in 1932–3. The import and export figures of merchandise are rather more helpful, though the exports include gold which is responsible for probably at least two-thirds of the total. Imports of merchandise have fallen by about 60 per cent in 1932 and by about 40 per cent in 1933, compared with 1929.

Railway receipts have fallen almost continuously during the period, the fall from 1929 being 21 per cent. The reduction in

TABLE VI

Central Argentine Railway

	Years Ending 30th June				
	1930	1931	1932	1933	1934
Output of Petroleum (Metric tons. Thousands). Monthly average	113 (1929)	108 (1930)	141 (1931)	158 (1932)	165 (1933)
Foreign Trade. Merchandise only—					
Imports (Paper peso millions) Monthly average	163·3 (1929)	140·0 (1930)	97 8 (1931)	69·7 (1932)	74·8 (1933)
Exports (Paper peso millions) „ „	180·6 (1929)	116·3 (1930)	121·3 (1931)	107·3 (1932)	93·4 (1933)
Railways—					
Receipts (Million £)	11·57	11·20	11·27	9·33	8·95
Expenditure (Million £)	8·39	8·18	8·23	7·85	7·21
Net Revenue (Million £)	3·18	3·01	3·04	1·48	1·74
Operating Ratio	72·54	73 07	72·13	80·51	73·05
Receipts: Passenger and Special Trains (Million £)	3·39	3·07	2·67	2·38	2·19
Goods and Live Stock (Million £)	7·15	7·19	7·74	6·20	6·09
Parcels and Excess Luggage (Million £)	0·56	0·49	0·44	0·40	0·34
Miscellaneous (Million £)	0·34	0·30	0·25	0·24	0·21
Number of Passengers (Millions)	50·85	50·29	47·59	44·12	41·67
Number of Tons of Goods (Millions)	7·12	8·51	9·30	7·23	7·34

TABLE VII

South African State Railways

	Years				
	1929	1930	1931	1932	1933
Index of Building Activity (1928 = 100)	118·4	104·7	122·7	67·8	96·6
Output of Coal (Metric tons. Thousands) Monthly average	1052	991	880	805	872
Foreign Trade. Merchandise only—					
Imports (S.Afr. £ Millions) Monthly average	6·587	5·095	4·144	2·606	3·961
Exports (S. Afr. £ Millions) ,, ,,	7·769	6·657	5·709	5·622	7·720
Railways—					
Receipts (S. Afr. £ Millions)	26·09	26·13	24·32	22·04	20·62
Expenditure, including Depreciation (S. Afr. £ Millions)	20·30	20·88	19·31	17·60	15·59
Net Surplus, Receipts over Expenditure (S. Afr. £ Millions)	5·79	5·25	5·01	4·44	5·03
Operating Ratio	77·80	79·90	79·39	79·87	75·61
Staff (excluding New Construction and Casual Staff)	84,405	82,164	78,713	69,732	64,427
Receipts: Passenger (Million £)	5·55	5·43	5·11	4·69	4·11
Goods and Mineral (excluding Coal) (Million £)	14·55	14·57	13·62	12·37	11·89
Coal (Million £)	3·82	3·89	3·46	2·96	2·66
Live Stock (Million £)	0·614	0·610	0·597	0·559	0·582
Mails and Parcels (Million £)	0·833	0·873	0·824	0·775	0·725
Miscellaneous (Million £)	0·731	0·760	0·712	0·688	0·657
Number of Passengers (Millions)	82·0	80·5	76·3	73·0	69·9
Number of Tons (Goods and Coal) (Millions)	22·04	22·51	21·81	19·11	18·02

The railway statistics are for the 12 months ending 31st March; the others for the calendar year shown.

expenditure has been proportionate to the fall in receipts. Consequently the net revenue shows but a comparatively small reduction, and the operating ratio is actually lower in 1933 than in 1929, though in the intervening years it is higher. The operating staff has been reduced some 24 per cent.

We now turn to New Zealand where again the imports and exports of merchandise are the only indication we have of the course of trade. As will be seen in Table VIII, both these have suffered considerably in the course of the last six years.

In 1933 imports are but little more than half their value in 1929, whilst exports are reduced by some 25 per cent, though they were actually lower in 1931 and 1932. They have recovered still further in 1934.

The receipts of the railways have fallen by about 29 per cent from 1929 to 1933, which is more than the reduction in exports, but distinctly less than the fall in value of imports. Expenditure in the same period has been reduced by 24 per cent. The net revenue has therefore fallen, and though it is appreciably more than in 1931 it is nevertheless less than half its amount in 1929. The operating ratio has risen from 84·7 to 90·5.

Passenger traffic has suffered proportionately more than goods traffic in total value, though apparently not in volume. There is but little change in the average length of haul. It would seem, therefore, that it is trade depression rather than competition of other modes of transport which is the cause of the diminution of traffic on the New Zealand railways.

Finally, we glance at the position of the Japanese State Railway, excluding the Korean lines. (Table IX.)

Though imports and exports are each 13 per cent less in 1933 than in 1929 both 1932 and 1933 show an appreciable recovery from the low values of 1931. Moreover the General Index of Production shows an increase of 13 per cent in 1933 compared with 1929. The worst year of the world depression in the case of Japan would seem to have been 1931, and this fact is reflected in the railway figures, according to which both 1931–2 and 1932–3 were definitely worse for the railways. Expenditure has been reduced almost proportionately to traffic receipts, so that the operating ratio has risen only from 57 to 62

TABLE VIII

New Zealand State Railways

	Years					
	1929	1930	1931	1932	1933	1934
Index of Building Activity (1928 = 100)	102·2	69·7	32·7	26·8	37·4	43·0
Foreign Trade. Merchandise only—						
Imports (N.Z. £ Millions) Monthly averages	3·988	3·634	2·156	2·001	2·082	2·559
Exports (N.Z. £ Millions) " "	4·515	3·684	2·860	2·915	3·367	3·901
Unemployment. Applicants for Work	(2895)	(5003)	41,430	51,549	53,382	47,028
Railways—						
Receipts (N.Z £ Millions)	7·525	7·474	6·781	5 789	5·339	5·629
Expenditure (N.Z. £ Millions)	6·375	6·848	6·406	5·302	4·834	4·877
Net Operating Revenue (N.Z. £ Millions)	1·150	0·626	0·375	0·487	0·505	0·752
Operating Ratio	84·71	91·62	94·47	91·58	90·54	86·65
Staff	18,536	19,410	18,840	16,114	14,696	14,971
Receipts: Passengers (N.Z. £ Millions)	2·125	1·996	1·779	1·340	1·207	1·336
Mails, Parcels and Luggage (N Z £ Millions)	0·378	0·387	0·359	0·316	0·284	0·282
Goods (N.Z. £ Millions)	4·846	4·904	4·487	4·020	3·746	3·911
Labour, Demurrage (N.Z. £ Millions)	0·176	0·187	0·156	0·114	0·102	0·099
Number of Passengers (Millions)	9·075	8·498	7·289	6·504	6·871	7·511
Passenger Journeys (Millions)	25·575	25·414	22·814	19·151	18·367	19·047
Total Goods (including Timber) (Million tons)	7·09	7 22	6·40	5·27	4·95	5·09
Revenue, Net Ton-miles (Millions)	487·8	511·8	467·1	405·3	363·4	383·5
Average Haul (Miles)	—	66	67	70	66	68
Live Stock (Million tons)	0·536	0·566	0·556	0·553	0·545	0·549

The railway statistics are for the 12 months ending 31st March; the others are for the calendar years shown.

TABLE IX

Japanese State Railways (Excluding Korea)

	Years				
	1929	1930	1931	1932	1933
General Index of Production (1928 = 100)	111·4	105·6	10 5	109·0	126·1
Foreign Trade. Merchandise only—					
Imports (Million yen) Monthly averages	180·7	125·6	100 5	115·3	156·9
Exports (Million yen) „ „	175·1	119·2	93·2	113·5	152·3
Output of Coal (Million metric tons) Monthly averages	2·85	2 62	2·33	2·34	2·71
Unemployment: Number	—	369,408	422,755	485,681	408,710
Percentage		5·3	6·1	6 8	5·6
Railways—					
Working Revenue (Million yen)	529·1	517·8	458·1	433·5	426·0
Working Expenditure (Million yen)	300·7	304·1	284·8	266·6	265·1
Profit (Million yen)	228·4	213·7	173·3	166·9	160·9
Operating Ratio	57	59	62	62	62
Staff	210,883	210,472	204,564	198,678	198,848
Receipts: Passenger Traffic (Million yen)	292·6	286 0	261·1	245·3	239·0
Goods Traffic (Million yen)	228·0	223·3	189·2	180·4	178·7
Miscellaneous (Million yen)	8·5	8·5	7·8	7·8	8·2
Number of Passengers (Millions)	847·3	862·9	824 2	787·2	781·1
Number of Passenger-Kilometres (Millions)	21582·5	21345·7	19875·1	19122 7	19001·5
Average Journey (Kilometres)	25·5	24·7	24 1	24·3	24·3
Number of Metric-tons of Goods Carried[1] (Millions)	79·8	77·2	64·1	60·6	61·7
Number of Metric Ton-kilometres (Millions)	12769·6	12577·5	10901 2	10601·2	10560·7
Average Haul (Kilometres)	160·1	162·9	170·1	175·0	171·1

The railway statistics are for the 12 months ending 31st March; the others are for the calendar years shown.

[1] Exclusive of luggage and parcels.

and is constant for the last three years. There has been but a relatively small reduction in staff.

Working revenue shows a fall of 19·5 per cent from 1928–9 to 1932–3, the fall in passenger traffic being 18·4 per cent and that of goods traffic 21·6 per cent. The average haul of goods has risen appreciably from 160·1 kilometres in 1929 to 171·1 in 1932–3 and in 1931–2 was 175·0 kilometres. There is a fall of about 30 per cent in net revenue.

The competition of road transport with railways in Japan is generally regarded as only moderate, and it is certainly not so intense as in Great Britain. It is probable therefore that the reduction in traffic, which is proportionately greater than the diminution in economic activity would seem to have been, and the increased haul of goods is due, at least in the main, to other causes than road competition.

Without making a detailed study of the chief railways in each considerable country of the world it is impossible to answer at all confidently the question: what has been the effect of the world crisis on the rail transport industry? But the examples we have chosen in each continent ought to be such as to indicate the broad outlines of that answer. We are therefore in a position to sum up. In the following table an attempt has been made to put the information obtained in a form easy for comparison,

APPROXIMATE PERCENTAGE INCREASES (+) OR DECREASES (−) COMPARING 1933 WITH 1929

	Trend of Trade			Railway Results	
	General Production	Imports	Exports	Traffic Receipts	Net Revenue
Gt. Britain	− 7	− 8(*a*)	− 38(*a*)	− 20	− 36
France	− 23	− 50	− 63	− 27	− 110·6
U.S.A.	− 40	− 67	− 68	− 51	− 52
Argentine	(*b*)	− 54	− 48	− 23	− 45
South Africa	(*b*)	− 40	− 0·5(*c*)	− 21	− 13
New Zealand	(*b*)	− 48	− 25	− 29	− 56
Japan	+ 13	− 13	− 13	− 19·5	− 30

(*a*) Volume, not value.
(*b*) Statistics not available.
(*c*) Include gold.

though it must be remembered that the figures given must be generally interpreted.

It will be seen that the percentage decreases in railway traffic and net revenue follow fairly closely the decreases in national trade. In Great Britain and to a less extent in Japan, the railway results are worse than the state of trade would lead one to expect. In the Argentine they are rather better. In Great Britain the intense competition of road transport, and to a less extent of other modes of transport, is the chief, if not the sole, explanation. But road transport in other countries has been growing, in some cases rapidly, in recent years, with the result that most countries, and especially those with State lines, have taken steps to limit the competition and to attempt to find some method of assigning to each what is regarded as its proper function. A solution of the problem is yet to be found.

It is clear, however, that with a return of national economic prosperity and some restoration of international trade, which has shrunk so greatly during the recent crisis, the railways should regain a considerable part of the traffic they have lost since 1929. But the financial blow they have received during recent years has been a severe one and in many cases it will hinder the development of which some of them stand in need.

THE ROAD TRANSPORT INDUSTRY

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THE ROAD TRANSPORT INDUSTRY

THE rapid development of mechanical road transport has been one of the outstanding events of the post-war period, and in a single generation it has reacted in a marked degree on the whole economic and social life of the country. It has opened up the country to an extent never before possible and it has stimulated a more intense economic activity in all parts of the Kingdom, even the most remote. Between 1900 and 1914 considerable progress had been made by motor transport for passengers, but the development of commercial road haulauge of merchandise was slower. The war provided a great stimulus to motor transport as it demonstrated the possibilities of the modern road vehicle. Motor lorries were utilized in large numbers for war purposes and under very adverse conditions they rendered valuable services. After the Armistice, the dislocated state of the railways; the railway strike of 1919; large sales of surplus army vehicles; and the availability of large numbers of ex-servicemen trained in motor driving or repair combined to lead to the rapid development of road services. Since then, the growth of motor transport has continued apace. Whereas in 1918 there were only 189,000 motor vehicles in use in Great Britain, the number increased to 551,000 in 1920, to 1,141,000 in 1923, to just over 2,000,000 in 1928 and to 2,416,000 in 1934.

This rapid increase in motor transport resulted in a greatly enhanced cost of road maintenance and construction; expenditure on highways and bridges rising from £13,600,000 in 1918–1919 to £57,477,000 in 1928–1929. To set against the increased cost, however, there has been an increased yield from motor taxation especially after 1920 when the system of motor taxation was recast. Formerly there had been a petrol duty (introduced under the Finance Act of 1909) of 3d. per gallon for motor-cars and 1½d. per gallon for commercial vehicles and hackneys together with a horse-power tax for motor-cars. Under the Finance Act, 1920, and the Roads Act, 1920, the petrol duty was abolished

and the horse-power duty on private motor-cars increased to £1 per horse-power. Goods carrying vehicles were taxed on unladen weight and hackney vehicles on seating capacity. In 1919 motor taxation revenue amounted to about £3,000,000, in 1920 it was nearly £4,500,000, in 1923 £13,300,000; in 1928 it had risen to £25,520,000, and by 1933 it was about £68,000,000.

The vigorous competition of the new road transport had very severe reactions on railway traffic. The regulated monopoly which the railways had enjoyed in pre-war days was completely broken down and acute controversy was aroused by the road-rail problem. The railway interests accused the road transport industry of not paying its way while the road interests retorted that the railways should set their house in order if they wished to compete successfully. During the railway strike of 1919 and the General Strike of 1926, the railways lost much traffic to the roads which they have never regained.

In the earlier stages of the development of motor transport, there was considerable competition and rivalry between the various concerns, but after about 1925 there was a marked trend towards combination and amalgamation among motor bus companies. By 1928 many of the more important bus companies had obtained a virtual monopoly in their respective areas, and it seemed then likely that Great Britain would be divided out into about seven natural traffic areas—Scotland, North-Western, North-Eastern, Midlands, East Anglian, Metropolitan and South Western.

In 1928 the four Railway (Road Transport) Acts gave a further stimulus to the combination movement as the railway companies, after obtaining the road powers, became associated with the large bus concerns. These partnerships covered practically the whole country and over £4,000,000 was invested by the railway companies in bus undertakings.

In regard to road haulage of goods and merchandise, there was not the same trend noticeable towards combination. With some exceptions, road haulage businesses were not large-scale enterprises in 1928, and in any case something like 80 per cent of the goods vehicles on the roads were owned, not by hauliers, but by ancillary users such as traders and manufacturers who

used their vehicles for the collection and delivery of their own traffic. The railway companies therefore pursued a different policy and began to extend and develop their cartage services and to introduce new facilities such as container services, railheads and rural lorry services. More recently, they have commenced a large scale mechanization of their cartage services.

In the period 1918–1929, the great and rapid expansion of the road transport industry naturally raised many problems requiring adjustment. Mention has already been made of the road-rail problem and the problem of road costs, but there were also many others including the adaptation of roads and bridges to the new conditions; the control and regulation of road traffic; the problem of road accidents; the disturbance of old amenities; the effects on properties adjoining the roads; the spreading of the population over the countryside and the development of a new type of crime dependent on the use of motor-cars.

To sum up the period 1918–1929 in this connection, we might speak of it as the period of development, while in contrast to this, the period 1930–1934 might be called the period of adjustment.

Records of Events Since 1929

1929. In this year several branch railway lines were closed to passenger traffic and bus services operated by associated companies were substituted. In April, the railway companies agreed to adopt somewhat similar conditions of service for their road transport employees as those enjoyed by railwaymen. It had long been a grievance of the railway companies and the railway trade unions that wages and conditions of service in goods transport by road were not generally as good as those of the railways.

In July the First Report of the Royal Commission on Transport entitled "The Control of Traffic on Roads" was issued. This Royal Commission had been set up in 1928 to "take into consideration the problems arising out of the growth of road traffic and with a view to securing the employment of the available means of transport in Great Britain (including transport by sea coastwise and by ferries) to the greatest public advantage, to

consider and report what measures, if any, should be adopted for their better regulation and control, and, so far as is desirable in the public interest, to promote their co-ordinated working and development."

A second report followed in October entitled "The Licensing and Regulation of Public Service Vehicles." This latter report recommended that motor buses and coaches should be licensed by a new authority to be called Traffic Commissioners.

The Bridges Act, 1929, applied to bridges carrying public carriage roads which are not maintained by highway authorities. The Act enabled a Highway Authority by agreement with the owner to take over any such bridge. Contributions up to 75 per cent of the cost could be made from the Road Fund in such cases. A similar contribution was also permissible where bridges were built for the purpose of eliminating level crossings. The response to the Minister's offer of grants, however, was small.

The Motor Cars (Excessive Noise) Regulations, 1929, were made on the 3rd July, 1929, with a view to lessening the noise of motor traffic. These regulations made excessive noise an offence when it was caused directly or indirectly as a result of defects, lack of repair or faulty adjustment of the vehicle, or faulty packing or adjustment of loads.

1930. On 1st April, Part III of the Local Government Act, 1929, came into force. This dealt with roads and town planning and on that date all main roads, all roads in rural districts, and all classified roads in urban districts and boroughs, other than county boroughs, became "county roads," and rural districts ceased to be highway authorities. District Councils, however, were permitted to apply for the delegation to them of the functions of the County Council with respect to county roads within the district.

On 16th May, 1930, under the provisions of the Local Government (Scotland) Act, 1929, the County Councils in Scotland took over all the functions of the District Committees and also the functions of town councils in small burghs as highway authorities as far as relating to classified roads.

The views expressed in the two reports of the Royal Commission were given legislative force in the Road Traffic Act, 1930.

The Bill was introduced in the House of Lords on 28th November, 1929, and received the Royal Assent on 1st August, 1930.

This most important and extremely comprehensive Act contained numerous provisions regarding both private and public vehicles. It abrogated the speed limit for private cars and motorcycles and regulated the speed permissible for various other categories of vehicles; set up Traffic Commissioners for the licensing of public service vehicles as recommended by the Royal Commission on Transport; established strict regulation of public passenger road services; regulated the hours and conditions of road transport employees; conferred important new powers on municipalities operating passenger services; provided for compulsory insurance against third party risks; laid down that wages of road transport employees should be fair wages; dealt with the licensing of drivers and conductors of public service vehicles and amended the law relating to highways.

In subsequent years a large number of Regulations and Orders were made under this Act (see Appendix).

Perhaps the most important innovations introduced by the Act were the provisions as to the licensing of public service vehicles and the setting up of eleven Traffic Areas (including the Metropolitan Traffic Area) in England and Wales and two in Scotland. In each of these areas, three commissioners were appointed and became responsible for licensing. Formerly there were 1100 separate licensing authorities in England and Wales and 234 in Scotland, whilst the regulations concerning licensing dated back to 1847 and 1889 in England and Wales and to 1892 in Scotland.

The Act marked the end of one phase in the development of road transport and inaugurated a new era in which a much greater degree of state control is a characteristic feature. The position as regards passenger transport by road was stabilized and very few new entrants to the industry have been permitted by the Commissioners. In practice, the Act has given a legal recognition to undertakers, both large and small, who were previously operating road passenger services.

With the coming into operation of the Act, the position of municipally-owned passenger transport undertakings has been

considerably strengthened since municipalities already operating public passenger services can now run motor bus services over any road in their district, provided they obtain the necessary licences in the ordinary way from the Area Traffic Commissioners. They can also operate vehicles on roads outside their boundaries, without special parliamentary powers, provided they obtain the special consent of the Commissioners. They can also enter into working agreements with other operators, either municipal or company, and advantage has already been taken of this provision in a number of areas, e.g. the corporations of Keighley, York, Hull, Perth, Carlisle, Ayr, Kirkcaldy and Kilmarnock have entered into agreements with private companies for the operation of their services. Recently a Joint Committee was formed (1st April, 1933) for the working of the Burnley, Nelson and Colne Corporations' transport systems and the formation of similar joint committees is at present being discussed in other areas.

In December, 1930, the Final Report of the Royal Commission on Transport was published. Among the recommendations contained therein was one that road hauliers should be placed under a system of licensing to be administered by the Area Commissioners already established under the Road Traffic Act, 1930. The members of the Commission explained that they were influenced by two main considerations. "First," they stated, "we believe that it would be greatly to the advantage of the road haulage industry itself, if it were placed on an organized basis. Second, in our opinion the organization of the industry is an essential precedent to any attempt at general co-ordination with other forms of transport." (Final Report, page 161.)

Considerable controversy arose in regard to these recommendations and Parliament did not take any immediate steps to implement them, but in April, 1932, the Minister of Transport convened a conference consisting of four representatives of the main line railway companies and an equal number of persons representing the operators of goods transport by road under the independent chairmanship of Sir Arthur Salter.

1931. In 1931 the most important events were concerned with the putting into operation of the Road Traffic Act, 1930. Numerous Orders and Regulations were issued under the Act relating

to such matters as the date of commencement of various sections of the Act; variations in traffic areas; drivers' licences and the hours of duty of drivers; third party risks; variations in speed limits; construction and use of motor vehicles; conditions of fitness of vehicles; authorization of special types; licences, etc. "The Construction and Use Regulations" provided for the length, width and other dimensions of vehicles, and dealt with matters concerning tyres, safety glass, brakes and wheels.

In 1931, the Minister of Agriculture and Fisheries issued the Transit of Animals Order which affected the construction and use of vehicles employed in connection with the carriage of animals.

Two important changes were made in regard to taxation. On 28th April, the petrol tax was raised from 4d. per gallon to 6d. per gallon, and on 10th September it was still further increased to 8d. per gallon.

About this year significant developments began to take place in the more general adoption of the heavy oil (or diesel) engine and these were accelerated by the increased tax on petrol. Experiments were also carried out in connection with other fuels such as compressed coal gas and creosote. The heavy oil engine proved itself very successful for large motor buses and heavy goods vehicles showing a marked saving in running costs.

Under the National Economy Act, 1931, the Minister of Transport was empowered by an Order in Council to terminate statutory or contractual obligations and arrangements were made with Highway Authorities to postpone road improvement schemes not already commenced and to curtail those already in progress at the most suitable point of termination. A policy of curtailment was adopted in preference to lowering standards of maintenance which it was considered would be a false economy.

1932. In July, 1932, the Report of the Conference on Road and Rail Traffic was issued. This Report, usually known as the "Salter Report," was unanimous, and recommended that all mechanical vehicles utilized for the transport of goods by road should be licensed in a manner somewhat similar to that which applied to public service passenger vehicles under the Road Traffic Act, 1930. The grant of such licences, it was further

recommended, should be conditional on the observance of proper conditions as to fair wages and conditions of service of employees and the maintenance of vehicles in a state of fitness. The members of the Conference also stated that in their opinion the contributions of goods vehicles to road taxation were too small.

The Report caused much discussion and keen criticism. The uncertainty as to the future reacted adversely for a time on the motor manufacturing industry, but more especially on the producers of heavy vehicles, as buyers held back their purchases until the policy of the government was declared. One immediate effect of the publication of the Salter Report was to stimulate the growth of representative organizations in the road haulage industry, since hauliers felt that their interests might be seriously threatened. The views of those concerned were formulated by such organizations and forwarded to the Minister of Transport by whom they were considered before steps were taken to frame legislation on the recommendations of the Report. A press advertising campaign was undertaken by the new road organizations in order to bring their point of view before the public. This step illustrates the new cohesiveness which the position forced on the road transport industry, and a few years before such a step would have been unthinkable so unorganized was the industry.

On 30th December, 1932, the British Road Federation was incorporated and its main objects were stated to be "To promote, watch over and protect the interests of all persons concerned in the construction or in the use of roads. To originate and promote improvements in the law, or in the regulations which affect owners or users of any mechanically-driven or horse-drawn vehicle. To promote a constructive transport policy in the national interest." Another organization also formed about this time was the Road Haulage Association, Ltd., which is a governing organization formed for the specific purpose of protecting the interests of road hauliers. At the present time, it has a membership of about 5000.

In 1932, owing to the considerable developments which were being manifest in the trolley bus, the Ministry of Transport issued a memorandum of requirements for the construction,

dimensions and weight of trolley vehicles and their electrical equipment. Numerous substitutions of trolley vehicles for tramways have recently been effected, especially where conditions were not suitable for trams and the time had come to re-lay the permanent way. One factor in the increased popularity of the trolley bus has no doubt been the fact that such vehicles do not require a road service licence from the Area Commissioners.

1933. The Finance Act of 1933 introduced a new scale of taxation for commercial vehicles with a differential scale of taxation according to the type of fuel used. There are various scales according as the vehicle is adapted to be driven by light oils, steam or coal gas, electrically propelled or otherwise. The scales in each case are sliding scales of duty which increase with the unladen weight of the vehicle. There is also a higher duty for the larger vehicles if they are not fitted with pneumatic tyres. Thus for a vehicle fitted with pneumatic tyres with an unladen weight of six tons, the duty is £90 per annum if using light oil, or steam or coal gas; £45 if electrically propelled, and £120 if driven by any other fuel, e.g. heavy oil. A duty of 1d. per gallon in addition was placed for the first time on heavy oil.

In April, 1933, a Bill was introduced into the House of Commons to implement the recommendations of the Salter Committee. As finally passed in December, 1933, the Road and Rail Traffic Act, 1933, contained three parts dealing respectively with (1) goods vehicles, (2) railway traffic, and (3) the establishment of a Transport Advisory Council.

The Act introduced many important changes in the law relating to the transport of goods by road and rail. A new system of licensing goods vehicles was inaugurated whereby every mechanically-propelled vehicle made to haul or carry goods, as well as every trailer drawn by such a vehicle, requires a licence. Three classes of licences are prescribed, namely—

"A" Licences, applicable to public carriers "carrying goods for hire or reward."

"B" Licences, applicable to limited carriers, i.e. those who use the vehicles in their own business but occasionally carry for others.

"C" Licences, applicable to private carriers who use their own vehicles solely in their own business.

The Act, it should be noted, does not apply to horse-drawn vehicles of any kind.

The Area Traffic Commissioners set up under the Road Traffic Act, 1930, were empowered to take over the duties in connection with the licensing of goods vehicles. In the case of "Claimed Tonnage" (i.e. vehicles used by hauliers before the Act), licences could not be refused provided hauliers applied for them before 1st April, 1934. In addition the Commissioners had powers to license "Discretionary Tonnage" after hearing objections if they considered a good case was made out for it. "C" Licences cannot be refused, whether for old or new tonnage, except on the grounds of failure to observe conditions or in cases of previous bad conduct.

The chief concern of the licensing authorities is to be the public interest generally whether this is represented in a particular case by the claims of the user of transport or persons who provide transport. In addition to the general exercise of its discretion, the licensing authority must when granting "A" or "B" Licences consider the facilities for transport already available; the number and type of vehicles which it is proposed to use and the applicant's previous conduct. Regard must also be had to the fact that vehicles are sometimes withdrawn from service for repair or overhaul.

The Act further prescribed that (1) vehicles must be kept in a fit and serviceable condition, (2) the provisions regarding speed limits and the loading of vehicles must be observed, and (3) certain records, e.g. driver's logs, statistics of tonnage and distance, must be kept. In the case of "A" and "B" Licences, regulations were also imposed regarding the hours of continuous duty of drivers.

The Act came into force on 1st January, 1934, but many of its sections did not become operative till later, e.g. applications for claimed tonnage on 1st April; inspection of goods vehicles on 1st May; applications for discretionary tonnage on 5th May; and the Licensing provisions on 1st July.

Among other important provisions contained in the Act are the sections dealing with restrictions on the use of roads and bridges by motor vehicles.

The system of "Agreed Charges" by rail which became permissible under Part II of the Act does not directly concern road transport but they will have indirect reactions since the railways are now placed in a better position to compete with road transport. Already numerous "agreed charges" have been sanctioned by the Railway Rates Tribunal based on a uniform charge per package, per ton, or per animal, and in one case on the basis of a certain percentage (namely, $4\frac{1}{4}$ per cent) of the purchase price of the firm's goods. All such charges are irrespective of distance or classification; being in a way an average charge.

In 1933, another very important Act relating to road transport was passed, namely, the London Passenger Transport Act, which established the London Passenger Transport Board as a statutory body. This Board represents the amalgamation, or transference of 5 railway companies, 14 municipally-owned tramways, 3 company-owned tramways, 66 bus or coach companies, and the whole or part of not less than 69 other bus or coach companies as well as some miscellaneous companies. The Board has been granted a monopoly (apart from the suburban lines of the four main line railway companies) of public passenger transport over the Greater London Area. The Act also provided for the pooling of the receipts of the Board with those of the suburban lines previously mentioned.

1934. An important event of this year was the absorption by the main line railway companies of Carter Paterson and Pickfords. The railway companies also became partners with other important road cartage contractors, and no doubt the tendency will be for these to absorb independent units from time to time.

The 1934 Budget provided for a reduction of 25 per cent in the taxation of motor-cars and motor-cycles, which reduction came into operation on 1st January, 1935.

During this and the previous year much public attention was devoted to the appalling total of fatal and other accidents on the roads. Eventually the Government took action and introduced a Bill with the special intention of reducing road accidents. This Bill received the Royal Assent on 31st July as the Road

Traffic Act, 1934. Among its more important provisions was the imposition of a speed limit of 30 m.p.h. in "built-up" areas for a period of five years, at the end of which time the whole matter will be subject to review by Parliament. New applicants for driving licences have to pass a test for proficiency, and the Minister of Transport is empowered to regulate the use of horns by day or night by imposing Zones of Silence. Penalties for dangerous or careless driving have been increased. The Act makes it an offence for a manufacturer to sell a motor-car having an inefficient silencer. In Part III a new principle was introduced—that of the control of the pedestrian—and powers were given to establish marked crossings and to regulate pedestrian and other traffic in the vicinity of such crossings. In Part IV certain amendments to the Acts of 1930 and 1933 have been introduced, including the doing away of the statutory distinction between express and stage carriages.

In August, 1934, an agreement was adopted on wages and conditions of service of road transport employees by the National Joint Conciliation Board for the Roads Goods Motor Transport Industry which had recently been established. The rates of wages were divided into three sections and ranged from 45s. to 70s. a week, while it was agreed that the working week should be a guaranteed period of 48 hours on an accumulative basis, Monday to Saturday, inclusive of garage duties but excluding meal times. It was suggested that the scheme should be introduced on 1st October, 1934. Hitherto neither wages nor hours of employment have been effectually regulated in the goods-carrying side of the road transport industry and in consequence no uniformity has existed. If the agreement can be enforced, though this will be difficult owing to the very large number of independent carriers, it will do much to abolish the disparity in conditions of employment in road and rail transport.

ACTS RELATING TO THE ROAD TRANSPORT INDUSTRY, 1928–34

1. The London, Midland and Scottish Railway (Road Transport) Act, 1928. (18 & 19 Geo. V, c. 101.)
2. The Great Western Railway (Road Transport) Act, 1928. (18 & 19 Geo. V, c. 102.)

3. The London and North Eastern Railway (Road Transport) Act, 1928. (18 & 19 Geo. V, c. 103.)
4. The Southern Railway (Road Transport) Act, 1928. (18 & 19 Geo. V, c. 104.)
5. Road Traffic Act, 1930. (20 & 21 Geo. V, c. 43.)
6. Finance Act, 1933. (23 & 24 Geo. V, c.19.)
7. London Passenger Transport Act, 1933. (23 Geo. V, c. 14.)
8. Road and Rail Traffic Act, 1933. (23 and 24 Geo. V, c. 53.)
9. Road Traffic Act, 1934.

STATUTORY RULES AND ORDERS RELATING TO THE ROAD TRANSPORT INDUSTRY, 1929–1934

I. Orders and Regulations under the Roads Act, 1920, and the Finance Acts, 1920–1928

1. The Road Vehicles (Registration and Licensing) Amendment Regulations, 1930. (S.R. and O., 1930. No. 277.)
2. The Road Vehicles (Registration and Licensing) Amendment (No. 2) Regulations, 1930. (Provisional Regulations.)
3. The Road Vehicles (Registration and Licensing) Amendment Regulations, 1933. (S.R. and O., 1933. No. 1196.)
4. The Road Vehicles (Part Year Licensing) Order, 1932. (S.R. and O., 1932. No. 51.)
5. The Road Vehicles (Part Year Licensing) (Amendment) Order, 1933. (S.R. and O., 1933. No. 1092.)
6. The Road Vehicles (Index Marks) Regulations, 1932. (S.R. and O., 1932. No. 332.)
7. The Motor Car (International Circulation) Order, 1930. (S.R. and O., 1930. No. 968.)
8. The Road Vehicles (International Circulation Permit) (No. 2) Regulations, 1930. (Provisional Regulations.)
9. The Road Vehicles (International Circulation Permit) (Amendment) Regulations, 1931. (Provisional Regulations.)
10. The Motor Vehicles (International Circulation) Order, 1933, dated 10/4/1933.

II. List of Regulations Made by the Minister of Transport under the Road Traffic Act, 1930

11. The Road Traffic Act, 1930 (Date of Commencement) Order (No. 1), 1930. (S.R. and O., 1930. No. 1003.) 8/11/30.
12. The Road Traffic Act, 1930 (Date of Commencement), Order (No. 2), 1930. (S.R. and O., 1930. No. 1011.)
13. The Road Traffic Act, 1930 (Date of Commencement), Order (No. 1), 1931. (S.R. and O., 1931. No. 159.)
14. The Road Traffic Act, 1930 (Date of Commencement), Order (No. 2), 1931. (S.R. and O., 1931. No. 165.)

The following three Orders were subsequently revoked by the Road and Rail Traffic Act, 1933—

15. The Road Traffic Act, 1930 (Variation of Traffic Areas), Order, 1931. (S.R. and O., 1931. No. 380). 20/1/31.

16. The Road Traffic Act, 1930 (Variation of Traffic Areas), Order (No. 2), 1931. (S.R. and O., 1932. No. 113.) 10/8/1931.
17. The Road Traffic Act, 1930 (Variation of Traffic Areas), Order, 1932. (S.R. and O., 1932. No. 509.) 23/4/1932.

The following were revoked by the London Passenger Transport Act, 1933—

18. The Road Traffic Act, 1930 (Adaptation of Part IV to the Special Area) Order, 1931. (S.R. and O., 1931. No. 481) dated 27/2/1931, revoked by 1932 Order mentioned below.
19. The Road Traffic Act, 1930 (Adaptation of Part IV to the Special Area), Order, 1932. (S.R. and O., 1933. No. 319.) 24/11/1932.

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20. The Traffic Commissioners (Nominations to Panels) Regulations, 1931. (S.R. and O., 1931. No. 973.) 12/11/1931.
21. The Motor Vehicles (Driving Licenses) Regulations, 1930. (S.R. and O, 1930. No. 938.) 17/11/1930.

The following two regulations were revoked by 1933 regulations—

22. The Motor Vehicles (Third Party Risks) Regulations, 1930. (S.R. and O., 1930. No. 1097.) 24/12/1930.
23. The Motor Vehicles (Third Party Risks) (Amendment) Regulations, 1932. (S.R. and O., 1932. No. 752.) 13/9/1932.

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24. The Motor Vehicles (Third Party Risks) Regulations, 1933. (S.R. and O., 1933. No. 311.) 7/4/1933.

Limitation of Hours of Duty of Drivers of certain Vehicles

25. The Road Traffic Act, 1930 (Variation of Provisions of Section 19), Order, 1931. (S.R. and O., 1931. No. 315.) 30/3/1931.
26. The Road Traffic Act, 1930 (Variation of Provisions of Section 19), (No. 1) Order, 1933. (S.R. and O., 1933. No. 325.) 31/3/1933.
27. The Road Traffic Act, 1930 (Variations of Provisions of Section 19), (No. 2) Order, 1933. (S.R. and O., 1933. No. 582.) 30/5/1933.

Speed Limit—Variations

28. The Motor Vehicles (Variations of Speed Limit) Regulations, 1931. (S.R. and O., 1933. No. 141.) 24/1/1931.
29. The Motor Vehicles (Variations of Speed Limit) (No. 2) Regulations, 1931. (S.R. and O., 1931. No. 626.) 30/4/1931.
30. The Motor Vehicles (Armed Forces) Variation of Speed Limit Regulations, 1932. (S.R. and O., 1932. No. 1063.) 9/12/1932.

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31. The Motor Vehicles (Use on Menai Bridge) Regulations, 1931. (S.R. and O., 1931. No. 317.) 1/4/1931.
32. The Regulation and Restriction of Road Traffic (Procedure) Regulations, 1931. (S.R. and O., 1931. No. 486.)

Traffic Signs

33. The Traffic Signs (Size, Colour and Type) Provisional Regulations, 1932. 3/2/1932. (Revoked by 1933 Provisional Regulations.)
34. The Traffic Signs (Size, Colour and Type) Provisional Regulations, 1933. 22/12/1933.

Motor Vehicles—Construction and Use Regulations

35. The Motor Vehicles (Construction and Use) Regulations, 1931. (S.R. and O., 1931. No. 4.) 10/1/1931.
36. The Motor Vehicles (Construction and Use) (Amendment) Provisional Regulations, 1931. 29/5/1931.
37. The Motor Vehicles (Construction and Use) (Amendment No. 2) Provisional Regulations, 1931. 5/11/1931.
38. The Motor Vehicles (Construction and Use) (Amendment) Provisional Regulations, 1932. 21/6/1932.
39. The Motor Vehicles (Construction and Use) (Amendment No. 2) Provisional Regulations, 1932. 24/11/1932.
40. The Motor Vehicles (Construction and Use) (Amendment) Provisional Regulations, 1933. 2/2/1933.

Orders Regarding the Authorization of Special Types of Vehicles

(*a*) *General*

41. The Motor Vehicles (Authorization of Special Types) Order (No. 1), 1931. (S.R. and O., 1931. No. 20.) 14/1/1931.
42. The Motor Vehicle (Authorization of Special Types) Order (No. 2), 1932. (S.R. and O., 1932. No. 50.) 15/1/1932.
43. The Motor Vehicles (Authorization of Special Types) Order (No. 1), 1931. Amendment Order, 1932. (S.R. and O., 1932. No. 520.) 30/6/1932.
44. The Motor Vehicles (Authorization of Special Types) Order (No. 6), 1932. (S.R. and O., 1932. No. 871.) 11/10/1932.
45. The Motor Vehicles (Authorization of Special Types) Order, 1933. (S.R. and O., 1933. No. 897.) 25/8/1933.
46. The Motor Vehicles (Authorization of Special Types) Order (No. 1), 1934. (S.R. and O., 1934. No. 85.) 30/1/1934.
47. The Motor Vehicles (Authorization of Special Types) Order (No. 2), 1934. 1/5/1934.

(*b*) *Crown Vehicles*

48. The Motor Vehicles (Authorization of Special Types) Order (No. 2), 1931. (S.R. and O., 1931. No. 49.) 14/1/1931. *Expired.*
49. The Motor Vehicles (Authorization of Special Types) Order (No. 3), 1931. (S.R. and O., 1931. No. 334.) 11/4/1931. *Expired.*
50. The Motor Vehicles (Authorization of Special Types) Order (No. 4), 1931. (S.R. and O., 1931. No. 876.) 10/10/1931. *Expired.*
51. The Motor Vehicles (Authorization of Special Types) Order, 1932. (S.R. and O., 1932. No. 37.) 13/1/1932. *Expired.*

52. The Motor Vehicles (Authorization of Special Types) Order (No. 3), 1932. (S.R. and O., 1932. No. 305). 13/4/1932. *Expired.*
53. The Motor Vehicles (Authorization of Special Types) Order (No. 4), 1932. (S.R. and O, 1932. No. 608.) 14/7/1932. *Revoked by S.R. and O.* 870 *of* 1932.
54. The Motor Vehicles (Authorization of Special Types) Order (No. 5), 1932. (S.R. and O., 1932, No. 870.) 18/10/1932.

Gas Propelled Vehicles

55. The Motor Vehicles (Compressed Gas Propulsion) Provisional Regulations, 1933. 12/7/1933.

Public Service Vehicles—Conditions of Fitness Regulations

56. The Public Service Vehicles (Conditions of Fitness) Provisional Regulations, 1931. 13/3/1931.
57. The Public Service Vehicles (Conditions of Fitness) (Amendment) Provisional Regulations, 1932. 17/2/1932.
58. The Public Service Vehicles (Conditions of Fitness) (Amendment) (No. 2) Provisional Regulations, 1932. 31/3/1932.
59. The Public Service Vehicles (Conditions of Fitness) (Amendment) (No. 3) Provisional Regulations, 1932. 17/6/1932.
60. The Public Service Vehicles (Conditions of Fitness) (Amendment) (No. 4) Provisional Regulations, 1932. 13/9/1932.
61. The Public Service Vehicles (Conditions of Fitness) (Amendment) (No. 5) Provisional Regulations, 1932. 13/12/1932.
62. The Public Service Vehicles (Conditions of Fitness) (Amendment) Provisional Regulations, 1933. 31/5/1933.
63. The Public Service Vehicles (Conditions of Fitness) (Amendment) (No. 2) Provisional Regulations, 1933. 3/11/1933.
64. The Public Service Vehicles (Conditions of Fitness) (Amendment) Provisional Regulations, 1934. 8/2/1934.

Public Service Vehicles—Equipment and Use Regulations

65. The Public Service Vehicles (Equipment and Use) Provisional Regulations (No. 2), 1931. 4/7/1931.
66. The Public Service Vehicles (Equipment and Use) (Amendment) Provisional Regulations, 1932. 25/4/1932.

Public Service Vehicles—Local Authorities Loans Regulations

67. The Public Service Vehicles (Local Authorities Loans) Provisional Regulations, 1932. 25/2/1932.

Public Service Vehicles—Licences and Certificates Regulations

68. The Public Service Vehicles (Licences and Certificates) (No. 2) Provisional Regulations, 1931. 23/6/1931.
69. The Public Service Vehicles (Licences and Certificates) (No. 2) (Amendment) Provisional Regulations, 1931. 7/12/1931.
70. The Public Service Vehicles (Licences and Certificates) (Amendment) Provisional Regulations, 1932. 4/1/1932.

71. The Public Service Vehicles (Licences and Certificates) (Amendment) Provisional Regulations, 1933. 27/6/1933.

Note. The above four Provisional Regulations have now been revoked by 1933 Statutory Regulations.

72. The Public Service Vehicles (Licences and Certificates) Regulations, 1933. 22/11/1933.

Public Service Vehicles—Records of Licences Regulations

73. The Public Service Vehicles (Records of Licences) (No. 2) Provisional Regulations, 1931. 14/6/1931. *Revoked by* 1933 *Regulations.*
74. The Public Service Vehicles (Records of Licences) Regulations, 1933. (S.R. and O., 1933. No. 653.) 27/6/1933.

Public Service Vehicles—Transitory Provisions Order

75. The Public Service Vehicles (Transitory Provisions) (No. 2) Order, 1931. (S.R. and O., 1931. No. 148.) 13/3/1931. *Revoked by* 1933 *Order.*
76. The Public Service Vehicles (Transitory Provisions) Order, 1933. 9/11/1933.

Public Service Vehicles—Lost Property Regulations

77. The Public Service Vehicles (Lost Property) Provisional Regulations, 1931. 21/5/1931. *Revoked by* 1933 *Regulations.*
78. The Public Service Vehicles (Lost Property) Regulations, 1933. (S.R. and O., 1933. No. 107.) 6/3/1933.
79. The Public Service Vehicles (Lost Property) (Amendment) Provisional Regulations, 1933. 29/6/1933.

Public Service Vehicles—Conduct of Drivers, Conductors and Passengers Regulations

80. The Public Service Vehicles (Conduct of Drivers, Conductors and Passengers) Provisional Regulations, 1931. 21/4/1931. *Revoked by* 1933 *Regulations.*
81. The Public Service Vehicles (Conduct of Drivers, Conductors and Passengers) Regulations, 1933. (S.R. and O., 1933. No. 255.) 17/3/1933.

Public Service Vehicles—Drivers' and Conductors' Licences Regulations

82. The Public Service Vehicles (Drivers' and Conductors' Licences) (No. 2) Provisional Regulations, 1931. 16/6/1931.
83. The Public Service Vehicles (Drivers' and Conductors' Licences) (Amendment) Provisional Regulations, 1933. 27/6/1933.

Public Service Vehicles—Particulars of Interests Regulations

84. The Public Service Vehicles (Particulars of Interests) Provisional Regulations, 1932. 4/1/1932. *Revoked by* 1934 *Statutory Regulations as from* 1/5/34.

85. The Public Service Vehicles (Particulars of Interests) Regulations, 1934. 7/2/1934.

III. Regulations Made Under the Road Transport Lighting Act, 1927

86. The Road Vehicles Lighting Regulations, 1929. (S.R. and O., 1929. No. 723.) 29/8/1929.
87. The Road Vehicles Lighting (Special Exemption) Regulations 1930 (Provisional). 17/9/1930.
88. The Road Vehicles Lighting (Amendment) Provisional Regulations, 1933. 28/7/1933.
89. The Road Vehicles Lighting (County Borough of Wallasey) Exemption Regulations, 1930. (S.R. and O., 1930. No. 70). 31/1/1930.
90. The Metropolitan Short Stage Carriage Order, 1931. (Made by Secretary of State for Home Affairs.) (S.R. and O., 1931. No. 454.)

IV. Regulations Made Under the Road and Rail Traffic Act, 1933

91. The Road and Rail Traffic Act (Date of Commencement) Order (No. 1), 1933. (S.R. and O., 1933. No. 1100.) 23/11/1933.
92. The Road and Rail Traffic Act (Date of Commencement) Order (No. 2), 1933. (S.R. and O., 1933. No. 1200.) 21/12/1933.
93. The Road and Rail Traffic Act, 1933 (Date of Commencement) Order (No. 1), 1934. (S.R. and O., 1934. No. 443.) 26/4/34.
94. The Regulation and Restriction of Road Traffic (Procedure) Provisional Regulations, 1934. 16/2/1934.
95. The Traffic Areas (Provisions or Variation) Order, 1933. (S.R. and O., 1933. No. 1100.) 25/11/1933.
96. The Goods Vehicles (Licences and Prohibitions) (Amendment) Provisional Regulations, 1934. 23/1/1934.
97. The Goods Vehicles (Licences and Prohibitions) (Amendment) Provisional Regulations, 1934.
98. The Goods Vehicles (Keeping of Records) Regulations, 1934. 15/8/1934. (S.R. and O., 1934. No. 899.)
99. The Road and Rail Traffic Act (Exemption) Provisional Regulations, 1934. 19/6/1934.
100. The Road and Rail Traffic Act (Exemption) (Amendment) Provisional Regulations, 1934. 10/11/1934.
101. The Goods Vehicles (Keeping of Records) (Amendment) Provisional Regulations, 1934. 20/9/1934.

V. Miscellaneous Regulations

102. The Motor Cars (Excessive Noise) Regulations, 1929. 3/6/29.
103. The Motor Cars (Use and Construction) Amendment Order, 1929. 4/10/29.

104. Heavy Motor Car (Amendment) Order, 1929. 11/10/29.
105. Heavy Motor Car (Amendment) (No. 2) Order, 1929. 17/12/29.
106. Transit of Animals Order, 1931.
107. Landing of Animals from Ireland, Channel Islands and the Isle of Man Order, 1933.
108. The Pedal Cycles (White Surface) Provisional Regulations, 1934. 18/10/1934.

VI. Regulations made under the Road Traffic Act, 1934

109. The Road Traffic Act, 1934 (Date of Commencement) Order (No. 1), 1934. (S.R. and O., 1934. No. 958.) 14/8/1934.
110. The Road Traffic Act, 1934 (Date of Commencement) Order (No. 2), 1934. (S.R. and O., 1934. No. 994.) 11/9/1934.
111. The Road Traffic Act, 1934 (Date of Commencement) Order (No. 3), 1934. (S.R. and O., 1934. No. 1200.) 14/11/1934.

DOCUMENTS, REPORTS, ETC., RELATING TO THE ROAD TRANSPORT INDUSTRY

First Report. Royal Commission on Transport. 19th July, 1929. "The Control of Traffic on Roads." Cmd. 3365.

Second Report. Royal Commission on Transport. 18th October, 1929. "The Licensing and Regulation of Public Service Vehicles." Cmd. 3416.

Final Report. Royal Commission on Transport, 19th December, 1930. "The Co-ordination and Development of Transport." Cmd. 3751.

Communications received from certain Organizations in response to the Ministry's request for their observations on the Final Report of the Royal Commission on Transport. Cmd. 4048.

Report of the Conference on Rail and Road Transport (Salter Committee). 29th July, 1932.

First Annual Reports of the Traffic Commissioners, 1931–1932.

Second Annual Reports of the Traffic Commissioners, 1932–1933.

Third Annual Reports of the Traffic Commissioners, 1933–34.

Proposed Joint Municipal Passenger Transport Board for South-East Lancashire and East Cheshire. Summary and Reports of the General Managers, Town Clerks, and Treasurers of Authorities concerned in the Proposal.

Annual Reports on the Administration of the Road Fund. (H.M.S.O.)

Road Vehicles, Census of Mechanically-propelled Road Vehicles. (Annually, H.M.S.O.)

Annual Reports of the London and Home Counties Traffic Advisory Committee. (H.M.S.O.)

Traffic Census, 1929. Report including Tables of Statistics of Traffic on Class II Roads in Great Britain during August, 1929. (H.M.S.O.)

Traffic Census, 1931. Report including Tables of Statistics of Traffic recorded on Class I Roads in Great Britain at the General Census taken in August, 1931. (H.M.S.O.)

Report of the Technical Advisory Committee on Experimental Work on Roads to 31st December, 1930. (H.M.S.O.)

Report of the Technical Advisory Committee Experimental Work on Roads for the Year 1931. (H.M.S.O.)

Report of the Committee on Concrete in Road Construction, 1933. (H.M.S.O.)

Report of the Committee on Methods of Providing Traffic Lines in Great Britain. (H.M.S.O.)

Report of the Departmental Committee on Direction Indicators on Motor Vehicles. 28th November. 1932. (H.M.S.O.)

Report of the Committee on Traffic Signs, 1933. (H.M.S.O.)

Directions issued by the Ministry of Transport in pursuance of Section 48 (1) of Road Traffic Act, 1930. (H.M.S.O.)

Circular No. 282 (Roads) Slippery Road Surfaces. 1st March, 1929. (H.M.S.O.)

Memorandum No. 336 (Roads) Layout and Construction of Roads. 6th August, 1930. (H.M.S.O.)

Second Report by London and Home Counties Traffic Advisory Committee on Street Accidents in Greater London Area, 1929. (H.M.S.O.)

Second Report by London and Home Counties Traffic Advisory Committee on Street Accidents to Children. (H.M.S.O.)

Preliminary Report on Fatal Road Accidents, 1933. (H.M.S.O.)

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Official Returns of Road Accidents Caused by Vehicles and Horses. (H.M.S.O.)

The Roadway Goods Transport Guide. (Commercial Motor Users' Association.)

Map of the Traffic Areas in Great Britain showing the principal places in each area. ("Motor Transport Year Book.")

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The Motor Industry of Great Britain. (Yearly. Society of Motor Manufacturers and Traders.)

SHIPPING

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THE WORLD ECONOMIC CRISIS AND BRITISH SHIPPING

1. TAKING the economic crisis to have commenced in the Autumn of 1929 the data in the following tables, except Table I, commence with the year 1928.

2. In the case of the principal maritime nations the economic position of their shipping depends on the volume of international seaborne trade and the total supply of shipping available for this trade. After the war the volume of the world's seaborne trade was below the level in 1913. It did not reach or exceed that level until 1928 or 1929, and during the economic crisis fell below it. It is therefore relevant in Table I to include the 1914 figures of the merchant marines of Great Britain and Ireland and the world. Measured by gross tonnage the world total was 36 per cent greater in June, 1928, than in June, 1914; 43 per cent greater in June, 1931, and 34 per cent greater in June, 1934. The June, 1914, total contained a negligible quantity of motor ships, and 3·7 million gross tons of sailing ships. The June, 1934, total contained 10·3 million gross tons of motor ships and only 1·2 million gross tons of sailing ships. The steamships on the Register in June, 1934, were more efficient than the steamships of 1914. Owing to improved construction the cargo carrying capacity per gross ton was higher and the average speeds were greater. It is probable that the world's shipping of 1934 has a carrying capacity for goods and passengers per annum 50 per cent greater than in 1914. There was no excess in the supply of shipping over demand in 1919 and 1920, while troops participating in the war had to be repatriated to the United States and European countries had to be re-stocked. During those two years the chief European ports were greatly congested and especially in 1919 navigation was still hindered by floating mines. The physical excess of the supply of shipping became apparent in the Spring of 1920 and grew more marked during the remainder of 1920 and the year 1921.

Tramp shipping freights (taking the average for 1913 as 100) fell almost continuously from 602 in March, 1920, to 141 in November, 1921, a fall of nearly 80 per cent in less than two years. The crisis in the shipping industry was therefore no sudden thing in 1929.

With brief exceptions such as the demand for British coal during the occupation of the Ruhr in 1923 and the demand for carrying coal from unusual sources caused by the British coal strike in 1926, British shipping has been uniformly depressed since 1920.

The position in some foreign countries was masked by state subsidies. This has notably been the case in the United States, Japan, Italy and France. German and Scandinavian shipping suffered almost as much as British shipping.

3. The extent to which British shipping depends on world trade is partly shown in Tables II and III. According to the former (based on the Shipping Policy Report of the Chamber of Shipping, June, 1932) over 20 per cent of work done by British ships in 1929 consisted in carrying between foreign countries, and according to the latter about 10 per cent of the gross freights earned by British ships came from such trade. A large part of the carrying between foreign countries consists of cargoes of grain and raw materials yielding low freights.

4. So far as the trade of the United Kingdom is concerned, the fall in the demand for shipping space is illustrated by Tables IV and V. The estimated weight of imports and exports of the United Kingdom was 142,000,000 tons in 1929 and 107,000,000 tons in 1933. The number of passengers to and from countries outside Europe was 677,000 in 1929 and 479,000 in 1933. The passengers coming from the Continent of Europe numbered nearly 3,000,000 in 1929 and about 2,250,000 in 1933.

5. The imports of the United Kingdom in the Board of Trade Returns are valued, c.i.f. and exports are valued f.o.b. It follows that to the extent to which imports are brought in British ships, the payments to foreign countries are overstated, as the freight is payable to British residents, and to the extent to which the exports are carried in British ships the payments made by foreigners are under-stated, as in addition to paying for the

f.o.b. value of the goods the foreign purchaser has to pay freight to the British shipowner.

The estimated contribution of British shipping under this head to the balance of payments is shown in Table VI to have fallen from £130,000,000 in 1928 to £59,000,000 in 1933. The provisional estimate for 1934 is £63,000,000. The estimates in this table are substantially the same as those made annually by the Board of Trade and published in the *Board of Trade Journal*, the difference in recent years being chiefly accounted for by the inclusion in the Board of Trade figure of the estimated expenditure of foreign ships in British ports. For the year 1931 the estimate was checked by a direct inquiry in 1932 which led to the substitution of £73,000,000 for an earlier estimate of £70,000,000.

6. A numerical measure of the effect of the depression on British shipping is provided by Tables VII and VIII. Tramp shipping freights, i.e. open market rates, fell from an average of 10 per cent above the 1913 level in 1928 to 22½ per cent below that level in 1933 and 19½ per cent in 1934. Idle shipping increased from 830,000 gross tons in June, 1928, to 3,610,000 gross tons in June, 1932. Idle shipping fell to 1,720,000 gross tons in June, 1934, as the result of a vigorous policy of scrapping and selling to foreign buyers. The quantity of shipping employed in the foreign trade fell from about 17,500,000 gross tons in June, 1929, to about 14,000,000 gross tons in June, 1934. These figures are obtained by deducting 2,000,000 gross tons from the corresponding figures in the last column of Table VIII, as about 1,000,000 gross tons of shipping on the United Kingdom Register is employed in the coasting trade, and another 1,000,000 gross tons consists of fishing vessels, harbour craft, tugs, dredgers, etc., not properly included in totals of merchant shipping engaged in the foreign trade.

7. Abortive attempts were made by British shipowners during the last four years to make the supply of shipping more nearly equal to the demand by the adoption of some scrapping or laying up scheme. These all failed when it was realized that if such a scheme were confined to British shipping it would be ineffective, and when it was found impossible to secure international

co-operation, the subsidizing countries proving the stumbling block.

8. Meanwhile the reduction in financial resources and forced sales, caused by pressure of creditors, produced the results shown in Tables VIII and IX.

The new tonnage launched in Great Britain and Ireland fell from 1,520,000 gross tons in 1929 to 130,000 gross tons in 1933. The total for 1934 was 460,000 gross tons.

The tonnage broken up rose steadily from 170,000 gross tons in 1928 to 640,000 gross tons in 1933. At the same time, during the period, an average of more than 400,000 gross tons per annum was sold to foreign purchasers to be used for trading. The final result is shown in the second column of Table IX according to which the total tonnage owned in Great Britain and Ireland has been reduced from 20,440,000 gross tons in June, 1930, to 17,730,000 gross tons in June, 1934.

Remembering that 2,000,000 gross tons has to be deducted from the totals as representing non-trading vessels or vessels employed in the coasting trade of the United Kingdom, it follows that seagoing merchant shipping of this country has been reduced by nearly 15 per cent in the last four years. During the same period shipping owned in foreign countries has increased by 370,000 gross tons.

9. As regards efficiency, the reduced merchant tonnage owned in this country is in a strong position. Of the steam and motor tonnage on Lloyd's Register in June, 1934, the proportion under 20 years of age is 80·3 per cent for the United Kingdom and 68·7 per cent for foreign countries. The proportion over 25 years of age is 7·3 per cent for the United Kingdom and 20·9 per cent for foreign countries. Taking 10 years of age as the line of demarcation for vessels of modern type, the proportions are 36·9 per cent for the United Kingdom and 23·9 per cent for foreign countries.

It will be seen, however, from the last three lines of Table I that the United Kingdom is not quite so well supplied with motor ships as other countries. This country owned in June, 1934, 27·7 per cent of the world's steam tonnage, but only 26·3 per cent of the world's motor tonnage. A probable explanation for

this is where a vessel can bunker for the round voyage at a United Kingdom port the steam vessel remains more economical than the motor ship.

TABLE I

SHIPPING (VESSELS OF 100 GROSS TONS AND OVER) RECORDED IN LLOYD'S REGISTER BOOK)

		Great Britain and Ireland	World
June		Gross Tons Mn.	Gross Tons Mn.
1914	Steam and Motor . .	18·89	45·40
	Sail	0·36	3·69
		19·26	49·09
1928	Steam	18·22	59·73
	Motor	1·54	5·43
	Sail	0·12	1·80
		19·88	66·95
1929	Steam	18·12	59·78
	Motor	1·92	6·63
	Sail	0·12	1·67
		20·17	68·07
1930	Steam	18·06	59·93
	Motor	2·26	8·10
	Sail	0·12	1·58
		20·44	69·61
1931	Steam	17·67	59·29
	Motor	2·53	9·43
	Sail	0·11	1·41
		20·30	70·13
1932	Steam	16·94	58·33
	Motor	2·62	10·04
	Sail	0·11	1·37
		19·67	69·73
1933	Steam	15·98	56·43
	Motor	2·62	10·20
	Sail	0·11	1·29
		18·70	67·92
1934	Steam	14·91	53·75
	Motor	2·72	10·34
	Sail	0·11	1·22
		17·73	65·58

TABLE II

DISTRIBUTION OF WORLD SEABORNE TRADE AND ESTIMATED PROPORTIONS OF THIS TRADE CARRIED IN BRITISH SHIPS

1929

U = United Kingdom.
E = British Empire outside the United Kingdom.
F = Foreign Countries.

Trade Between	Per Cent of World Seaborne Trade	Estimated Percentage of Trade in Second Column Carried in British Ships
F F	45·2	25
E F	14·9	56
U F	24·5	57
U E	12·9	95
E E	2·4	56

According to this estimate—

(*a*) British ships carried about 47 per cent of the world's seaborne trade in 1929; and
(*b*) 24 per cent of the carrying done by British ships was on voyages in which both terminals were in foreign countries.

TABLE III

GROSS EARNINGS OF BRITISH SHIPPING IN FOREIGN TRADE, 1931

Distribution Per Cent according to Trade Routes.

U = United Kingdom Ports.
E = Empire Ports outside the United Kingdom.
F = Foreign Ports.

	Gross Receipts	Gross Receipts *less* Expenditure in Ports Outside the United Kingdom
	%	%
U E	38·2	41·9
E E	10·5	7·0
U F	29·0	33·6
E F	11·6	8·5
F F	10·7	9·0

Based on special inquiry conducted by Chamber of Shipping of the United Kingdom in 1932.

TABLE IV

ESTIMATED WEIGHTS OF IMPORTS AND EXPORTS OF UNITED KINGDOM

Year	Imports	Exports		Total
		Coal	Other than Coal	
	Tons (Mn.)	Tons (Mn.)	Tons (Mn.)	Tons (Mn.)
1928	56·5	53·7	15·7	69·4
1929	60·5	64·4	17·0	81·4
1930	58·7	58·4	13·9	72·3
1931	55·2	45·9	10·4	56·3
1932	52·3	41·9	10·1	53·0
1933	55·4	42·1	9·8	51·9

TABLE V

PASSENGER MOVEMENT: UNITED KINGDOM

Year	To and From Countries Out of Europe	To and From the Continent of Europe[1]
	(000)	(000)
1928	674	2,928
1929	677	2,947
1930	618	3,013
1931	469	2,711
1932	499	2,010
1933	479	2,274

[1] Omitting passengers by aircraft.

Board of Trade Journal.

TABLE VI

CONTRIBUTION OF SHIPPING TO BALANCE OF PAYMENTS IN THE FOREIGN TRADE OF THE UNITED KINGDOM

Year	Estimated Gross Earnings of U.K. Ships engaged in Foreign Trade (*less* expenditure in Foreign Ports)
	£ (Mn.)
1928	130
1929	130
1930	105
1931	73
1932	62
1933	59
1934	64

TABLE VII

TRAMP SHIPPING FREIGHTS

(1913 = 100)

1928	110·2
1929	106·3
1930	81·7
1931	85·0
1932	80·2
1933	77·5
1934	80·6

Chamber of Shipping Annual Reports.

TABLE VIII

GREAT BRITAIN AND IRELAND

	Shipping Owned	British Shipping Laid up in U.K. Ports	Shipping in Commission
	Gross Tons (Mn.)	Gross Tons (Mn.)	Gross Tons (Mn.)
June, 1928 .	19·88	0·83	19·05
June, 1929 .	20·17	0·63	19·54
June, 1930 .	20·44	1·65	18·79
June, 1931 .	20·30	3·36	16·94
June, 1932 .	19·67	3·61	16·06
June, 1933 .	18·70	3·21	15·49
June, 1934 .	17·73	1·72	16·01

The totals in the second and fourth columns include about 1,000,000 gross tons of non-trading vessels, such as harbour craft, tugs, dredgers, fishing vessels, etc. Such vessels are not included in the laid up totals. The proportion unemployed was (deducting 1,000,000 tons from the totals in Column 2) approximately 3·3 per cent in June, 1929, and 18·1 per cent in June, 1933. As a consequence of scrapping and sales abroad, the proportion fell to about 10·3 per cent in July, 1934.

TABLE IX

GREAT BRITAIN AND IRELAND

Year	Tonnage Launched	Tonnage Broken up	Tonnage Sold to Foreign Buyers for Trading
	Gross Tons (Mn)	Gross Tons (Mn)	Gross Tons (Mn)
1928	1·45	0·17	—[1]
1929	1·52	0·22	0·52
1930	1·48	0·27	0·40
1931	0·50	0·31	0·33
1932	0·19	0·45	0·31
1933	0·13	0·64	0·63
1934	0·46	0·50[2]	0·33

[1] Not available. [2] Estimated.

(Columns 2 and 3 from Lloyd's Register for period 1928–33; Column 4 prepared from records published in shipping papers.)

THE SHIPBUILDING INDUSTRY

By PROFESSOR H. M. HALLSWORTH, C.B.E., M.COM.

THE SHIPBUILDING INDUSTRY

IN no other branch of industry, with the possible exception of the textile industries, was the predominance of Great Britain prior to the war so marked as in shipbuilding. The five years preceding the war were years of prosperity, following a serious slump in 1908 and 1909. The year 1913 was a record in the industry in respect both of British and world output. The total tonnage of merchant vessels launched in that year was $3\frac{1}{2}$ million, of which nearly 2,000,000, or about 60 per cent, was launched in Great Britain and Northern Ireland. Moreover, warship construction both for our own and other countries was considerable.

British shipbuilding yards enjoyed an almost complete monopoly of the construction for British shipowners, and at the same time built a considerable proportion of the ships for owners in other countries. The proportion of world merchant tonnage built in this country has fluctuated in recent years from 54·5 per cent (1929) to 27·2 per cent (1933). Just prior to the war the proportion was about 60 per cent, though in the 25 year period before the war it fell almost steadily from over 80 per cent to that figure. A percentage of 60 meant that Great Britain was building about 26 per cent of merchant vessels built on foreign account for other than British owners. Such then was the position at the outbreak of the war.

Great Britain was the leading shipbuilding country, followed, though at some distance, by Germany, the United States of America, and France. The position in the years 1909–1913 is shown in the first part of Table A (page 253).

The history of shipbuilding in the years since the war is revealed in the second part of the same table. So far as the world position is concerned the broad changes are best shown by taking five-yearly averages of merchant tonnage and comparing them with the average of the five pre-war years. These averages are as follows—

Years	Tonnage
1909–1913	2,488,940
1919–1923	4,294,665
1924–1929[1]	2,443,857
1930–1934	1,337,923

The chief fact which stands out from these figures is that world building of merchant ships during the crisis which began towards the end of 1929 has declined to little more than half its pre-war amount. 1929 and 1930 were good years. But the decline shows itself in 1931 and continues throughout 1932 and 1933, with a partial recovery in 1934. The total tonnage launched in 1933 was but 489,016 tons, or less than one-fifth of the average in the five pre-war years.

Considerable light is thrown on present day problems in the shipbuilding industry by a study of the figures for the last two years of the war and the four immediate post-war years. Austria ceases to build, and no returns are available for Belgium (until 1919), for Germany (until 1921) and for Russia; but otherwise the figures are comparable with those previously given.

Years	Tonnage
1917	2,937,786
1918	5,447,444
1919	7,144,549
1920	5,861,666
1921	4,356,843
1922	2,467,084

During the war the shipbuilding yards of Great Britain were greatly extended. The whole of their resources were needed to build ships for her own requirements, and especially to replace those lost through the Submarine warfare. In none of the war years was she able to build ships for other nations. This naturally led other countries, both neutral countries and our own allies, to develop and extend their own shipbuilding yards and plant. And this movement was intensified by the anticipated

[1] 1926 omitted owing to the General Strike in Great Britain.

world shortage of merchant shipping that would accrue at the close of the war. This development is clearly seen in the figures for the British Dominions, Holland, Spain, Denmark, Norway, and Sweden, but especially in the case of Japan and the United States. Japan increased her output from a yearly average of about 50,000 tons to about 427,000 tons; whilst the figures for the United States are little less than astounding. From a pre-war average output of 155,000 tons, she jumped to 384,899 tons in 1916, 821,115 tons in 1917, 2,602,153 tons in 1918, and 3,579,826 tons in 1919. These figures exclude the tonnage launched on the Great Lakes, which also showed considerable increases. There is little doubt that in these years, encouraged by the world shortage of ships and the abundance of capital now at her command, the United States was making a bold bid to supplant Great Britain as the leading shipbuilding country of the world. The effort, splendid as it was, quickly died down. In 1920 the output fell to 2,348,725 tons, in 1921 to 1,004,093 tons, and in 1922 to 97,161 tons, only two-thirds of her pre-war tonnage. Her highest output in any subsequent year was 214,012 tons in 1930 which is less than her output in many of the years prior to the war. Great Britain has, in fact, regained her leading position in the industry, though her proportion of world tonnage has fallen from the pre-war figure of 60 per cent to less than 50 per cent. Nevertheless certain countries have greatly improved their pre-war position and seem likely to maintain it, notably Japan, Denmark, Holland, Spain, and Sweden.

Two main problems confront the shipbuilding industry at the present time, alike in Great Britain and in other shipbuilding countries. The first is surplus output capacity of the shipbuilding centres; the second is the great fall in the demand for ships due to the decline in the volume of international trade. The two problems are obviously related but it is advisable to distinguish them.

Owing to the increase in the number, size, and equipment of shipbuilding yards during and immediately after the war, the total tonnage of merchant ships capable of being built in the world's yards is much beyond requirements. This would be true even if the volume of international trade had regained its

pre-war amount or if it had continued to increase at the normal rate of the pre-war years. It is accentuated, it is true, by the contraction of international trade, but it would exist if this contraction had not occurred. The extent of surplus capacity differs from country to country, and in view of the output of 1919 it must be greatest in the United States of America. In Great Britain it is considerable, especially in view of the reduction of her proportion of world tonnage launched. It is probably least in such countries as Sweden, Holland, and Japan.

Each country, therefore, has been faced with the problem of scaling down her shipbuilding capacity, not to present day requirements, but to a reasonable estimate of future requirements, based on the assumption that international trade will in time regain some of the position in the world economy which it has at present lost, and that the merchant fleet of the world, far too large for present requirements, will wear out or become obsolete, and in part will need to be replaced.

Scaling down in industry is, like slimming, a difficult and painful process. Nor is shipbuilding, unfortunately, the only industry faced with this necessity. Already a considerable number of firms have given up business or become bankrupt. But as we now realize, it is not enough to wait for the elimination of the weaker and less well-managed firms. Such firms are a menace to the financial stability of the entire industry, for in their desperate attempt to secure orders they cut prices below costs, and thus endanger all other firms in the industry. Moreover a shipyard sold "under the hammer" may be snapped up by a speculator for a mere song; and consequently there is no diminution in output capacity, but rather intenser competition. The same problem is found in the coal mining and cotton industries in this country.

A quicker and more certain method than the slow lapse of time has to be found. In this country the method adopted by the industry itself is to buy up yards that come on to the market and dismantle them, disposing of the land and equipment in such a way that the land may not be used for shipbuilding purposes for the next 40 years. In order to carry out the scheme in this country a company was formed early in 1930, called

National Shipbuilders' Security, Ltd. The company has a share capital of £10,000 and borrowing powers up to £2,500,000. Most of the shipbuilding firms of the country are shareholders, and each of the firms that are parties to the scheme has executed a deed of covenant to pay to the company a levy of 1 per cent of the contract or sale price of the vessels they commenced to build after the 1st November, 1930, payable after the completion of the vessels. The obligation of the shipbuilder to pay the levy continues until the whole of the debenture stock of the company has been redeemed. The levies are used to purchase and dismantle redundant and obsolete yards, and a number of yards have been so purchased and closed down by the company. In some cases the whole firm has been bought out, in others only certain yards of a firm.

It is obvious that such a scheme of scaling down is not an easy one to carry out, even in a united industry. A number of difficult problems are involved. The company has declared that it is no part of its policy to reduce capacity to monopoly limits, and in spite of the fears expressed by many shipowners, it cannot be said that the company has carried its policy to an extreme, in view of the fact that 75 per cent of the shipbuilding berths in the United Kingdom were not occupied with work at the end of 1934. Altogether 137 berths of about 1,000,000 tons annual building capacity had by that time been scrapped under the company's scheme. But the main problem involved is the extent to which the scrapping policy is to be carried. What is the future requirement of shipping tonnage likely to be and what proportion of it is likely to be secured by this country? This is a question which no one is in a position to answer. Moreover, as a glance at Table A shows, the amount of work done varies greatly from year to year; these fluctuations were a recognized characteristic of the industry prior to the war and it is therefore necessary to leave a fairly wide margin for them.

It has been recently argued[1] that even if world conditions become stabilized at, or slightly above, the present level, the present surplus of world tonnage afloat will in two or three years

[1] W. R. G. Whiting: *The Times* Trade and Engineering Supplement, April and May, 1935.

be inappreciable, and new ships will be required at the rate of about 2,300,000 tons a year. Of this amount it is anticipated that something like 40 per cent, or about 900,000 tons will be built in this country. It is further estimated that our major shipyards are capable of turning out about 1,400,000 tons annually, leaving a surplus capacity of about 40 per cent. Any scheme of scaling down will, if this estimate is at all near the mark, have to consider very thoroughly what proportion of these surplus berths shall be left to allow for the more prosperous years. There is something to be said for the view[1] that the scrapping policy of the company should go little, if any, further, and that the remaining surplus capacity should be allowed for under a quota system.

A further problem involved in this elimination of yards is that of their distribution. It is necessary to secure a balance not only as between one shipbuilding centre and another, as for example between the North East Coast and the Clyde, or as between the Tyne and the Wear, but also as between the yards suitable for the different types of ships, liners, cargo boats, oil tankers, war vessels, etc. Part of this second problem is a technical one on which the industry alone can decide. But it is in part a social one. The closing of yards in a town or area rouses great local opposition. No community likes to see its capacity for future activity diminished. And yet it is possible that a greater degree of local concentration and specialization might be an economic advantage to the industry.

The growth of shipbuilding in other countries is indicated by the figures in Table A. Some were not active builders prior to the war. Many of their yards were not efficiently organized. In Italy and Spain, for instance, machinery on a large scale has been installed only within the last ten years. The competition of these countries has only recently become effective. Thus, it is probably true to say that until ten years ago Great Britain was the only country commercially able to build oil tankers. But the war gave an opportunity and stimulus to several countries to develop their resources. Particularly was this the case with Denmark and Sweden. Denmark experimented on a big scale with the

[1] W. R. G. Whiting: *Loc. cit.*

TABLE A

GROSS TONNAGE OF MERCHANT VESSELS OF 100 TONS AND UPWARDS LAUNCHED DURING THE YEARS SHOWN.
(The Figures are in Thousands of Tons.) *Abstracted from Lloyd's Annual Summary.*

Years	Great Britain and Ireland	British Dominions		Austria Hungary	Belgium	Holland	France	Germany	Italy	Denmark	Norway	Sweden	Spain	Japan	United States		Other Countries	TOTAL
		Coasts	Canadian Lake Ports												Coast	Great Lakes		
1909	991·1	6·6	0·9	25·0	6·3	59·1	42·2	128·7	31·2	7 5	28·6	6·3	2·2	52·3	80 5	129·1	4·5	1602·1
1910	1143·2	14·6	11·7	14·3	6·2	70·9	80·8	159·3	23·0	12 2	36·9	8 9	3·2	30·2	177 6	153·7	11·0	1957·9
1911	1803·8	16·0	3·7	37·8	7·6	93·0	125·5	255·5	17·4	18·7	35·4	9·4	3 8	44·4	95·7	75·9	6·5	2650 1
1912	1738·5	25·1	9·7	38·8	18·5	99·4	110·7	375·3	25·2	26·1	50·3	14·0	4·3	57·8	194·3	90·0	23·9	2901·8
1913	1932·2	26·7	21·6	61·8	30·2	104·3	176 1	465·2	50 4	40·9	50 6	18·5	8·5	64·7	228·2	48·2	4·8	3332·9
1919	1620·4	298·5	60·2	—	2·4	137·1	32·6	[1]	82·7	37·8	57·6	51·0	52·6	611·9	3579·8	495·6	24·3	7144·5
1920	2055·6	174·6	29·1	—	8·4	183·1	93·4	[1]	133·2	60·7	38·9	63·8	46·0	456·6	2348·7	127·5	42·0	5861·7
1921	1538·1	118·3	11·4	—	17·9	232·4	210·7	509·1	170·9	77·2	51·5	65·9	47·3	227·4	1004·1	11·3	63·5	4356·8
1922	1031·1	53·3	9·4	—	7·5	163·1	184·5	525·8	101·2	41·0	32·4	30·0	7·8	83·4	97·2	22·0	77·3	2467·1
1923	645·7	37·1	4·2	—	1·1	65·6	96·6	345·1	66·5	49·5	42·6	20·1	4·5	72·5	96·5	76·3	19·3	1643·2
1924	1439·9	29·8	15 1	—	4·0	63·6	79·7	175·1	82·5	63·9	25·1	31·2	3·9	72·8	90·2	49·3	21·7	2247·8
1925	1084·6	32·2	13·9	—	4·2	78·8	75·6	406·4	142·0	73 3	28·8	53·8	0·1	55·8	78·8	50·1	15·2	2193·4
1926	639·6	22·8	10·8	—	3·6	93·7	121·3	180·5	220·0	72·1	9·2	53·5	25·7	52·4	115·2	35·4	19·0	1675·0
1927	1225·9	20·1	10·1	—	4·7	119·8	44·3	289·6	101·1	72·0	5·3	67·4	22·9	42·4	124·3	54·9	80·8	2285·7
1928	1445·9	23·0	0·7	—	16·2	166·8	81·4	376·4	58·6	138·7	10·4	106·9	11·9	103·7	86·1	5·3	67·3	2699·2
1929	1522·6	21·3	11·8	—	8·4	186·5	81·6	249·1	71·5	111·5	39·6	107·2	37·0	164·5	100·6	25·4	54·5	2793·2
1930	1478·6	43·3	0·5	—	12·3	153·1	100·9	245·6	87·7	137·2	53·8	131·8	25·2	151·3	214·0	32·7	21·6	2889·5
1931	502·5	13·6	—	—	0·9	120·3	103·4	103·9	165·0	126 0	18·2	112·7	48·1	83·7	202·2	3·6	12·9	1617·1
1932	187·8	3·4	1·3	—	1·5	26·2	89·3	80·8	47·4	22 4	11·1	43·0	11·1	54·4	143·6	—	3·1	726·6
1933	133·1	13·0	—	—	4·5	35·9	34·1	42·2	16·6	34·0	9·7	60·9	18·0	74·3	10·8	—	2·0	489·0
1934	459·9	9·1	—	—	0·8	46·9	16·0	73·7	26·6	61·7	18·9	49·5	18·4	152·4	24·6	—	8·8	967·4

[1] Returns are not available.

application of the Diesel engine in the propulsion of ships, and thus gained a four years' start on Great Britain and other countries in the construction of motor ships.

In some cases, as in France and Italy, subsidies have been used to develop their shipbuilding industry and to strengthen its competition in world markets. In Great Britain the Trade Facilities Act in effect afforded a subsidy to the industry. The fact that the Act was continued in Northern Ireland after it was dropped in Great Britain was a virtual subsidy to Belfast in its competition with British yards. The "scrap and build" scheme of the present Government under which advances, up to a total of £10,000,000, may be made to shipowners willing to scrap old vessels and to replace them with new ones, will have the effect of a subsidy to shipbuilding. The existence of subsidies must be borne in mind, too, in considering the changes which have taken place in building to foreign orders.

The export of ships from the United Kingdom during recent years and for the five years prior to the war was stated by the Parliamentary Secretary to the Board of Trade in the House of Commons on 9th May, 1935, to be as follows—

Year	New Vessels, Other than War Vessels, Complete			War Vessels (New) Complete		
	Number	Gross Tonnage	Declared Value	Number	Tonnage (*a*)	Declared Value
			£			£
1909	1,126	301,534	5,680,114	4	2,362	247,000
1910	1,045	218,990	3,875,704	11	31,420	4,894,500
1911	1,433	387,643	5,637,315	6	180	25,800
1912	1,498	377,680	6,262,162	5	5,426	765,000
1913	1,508	463,160	8,409,430	2	19,430	2,617,100
1925	942	189,004	6,261,969	1	17	14,354
1926	889	149,214	4,610,679	4	60	19,300
1927	1,082	174,792	4,485,267	7	81	45,388
1928	1,087	353,377	10,755,424	6	21,130	5,143,150
1929	1,035	377,510	11,690,916	14	15,712	3,820,250
1930	1,130	655,822	19,435,016	8	5,331	707,400
1931	502	310,345	9,857,745	2	2,640	600,000
1932	472	79,889	3,388,575	1	2,400	525,000
1933	525	44,164	1,891,919	5	3,953	679,928
1934	979	38,393	1,165,019	2	4,294	597,586

(*a*) Gross tonnage up to 1927, displaced tonnage from 1928.

The figures for 1909 to 1914 relate to exports from the British Isles; those for 1925 to 1934 relate to exports from Great Britain and Northern Ireland. The figures for 1934 are provisional.

Difficult and costly as has been the process of scaling down for the employers it has been no less so for the labour formerly engaged in the industry. The expansion of the war and immediate post-war years attracted men from other industries and increased the openings for boys. The decline of the last ten years has made much of this and other labour in the industry redundant. Already many workers have drifted away to other industries, or have lost their position as skilled craftsmen and become general labourers. It is a tragic story of spoiled and disappointed lives. In spite of this migration the intensity of unemployment among those who remain "attached" to the industry is very high, especially along the North East Coast and the Clyde, where in some months it has risen to as high a figure as 77·2 and 76·8 per cent respectively.

It is not easy to show the changes in the labour position of the industry. According to the Census of 1921 there were in England and Wales 278,348 males and 5095 females of 14 years of age and upwards engaged in Shipbuilding, Ship repairing, and Marine Engineering; in Scotland 121,075 males and 2649 females, making a total for Great Britain of 407,167 workpeople. The Census of 1931 gives the figures of 115,267 males and 2829 females of 14 years of age and upwards in England and Wales, and 76,387 males and 1419 females in Scotland, making a total of 195,902 for Great Britain. Comparison of the two sets of figures is, however, difficult because the Census of 1931 definitely excludes from the industry those out of work at the time of the Census.

It is better therefore to take the statistics of the Ministry of Labour showing the estimated number of workpeople in Great Britain and Northern Ireland "attached" to the shipbuilding and ship-repairing industry, and the percentage numbers of insured workpeople in the industry recorded as unemployed each year. These are shown in the following table.

It will be seen that in the last 12 years the numbers "attached" to the industry have fallen from 269,970 to 158,790, a fall of no less than 41·2 per cent. Yet in spite of this migration from the

TABLE

SHIPBUILDING AND SHIP REPAIRING INDUSTRY. GREAT BRITAIN AND NORTHERN IRELAND

(*Ministry of Labour Figures*)

Year	Number of Insured Workpeople in the Industry in July Each Year			Percentage of such Workpeople Unemployed in June Each Year
	Males	Females	Total	
1923	265,970	4000	269,970	43·7
1924	250,800	3430	254,230	27·1
1925	236,770	3350	240,120	32·8
1926	219,750	3350	223,100	39·2
1927	212,660	3370	216,030	22·9
1928	199,170	3260	202,430	28·3
1929	201,430	3070	204,500	22·5
1930	201,530	3190	204,720	30·7
1931	192,400	2990	195,390	56·6
1932	179,120	2810	181,930	62·9
1933	166,980	2330	169,310	61·1
1934	156,550	2240	158,790	49·1

1923–1927 . . . 16 years of age and over.
1928–1934 . . . 16 to 64 years.

industry the percentage unemployed was 22·5 in such a year as 1929, when as will be seen from Table A the gross output of merchant ships was 1,522,623 tons which is very slightly more than the average output of British yards in the five good years immediately prior to the war. No better indication of the position of the industry in this country can be given than these two figures, a loss of 65,470 workpeople in the industry and 22·5 per cent unemployment among those that remain, even in a good year. It is unnecessary to comment on the loss and suffering entailed.

Such is the present position of the industry. What of the future? In the first place there are signs that the equilibrium between demand and supply is being slowly righted. There is on the one hand a steady decrease going on in the shipping fleets of the world. World tonnage, which in 1914 amounted to 49,000,000 tons, and by 1931 had grown to 70,000,000 tons has now shrunk to about 65,000,000 tons. This is still greatly in excess of present demand in the freight market. But the consequent prevailing low level of freights, the impossibility of

running ships at a profit, and the high costs of laying up are leading to the gradual elimination of surplus vessels. Old and obsolete ships have been scrapped in increasing numbers in the last few years. Thus, two years ago the tonnage of merchant vessels laid up amounted to 15,000,000 tons, a year ago the figure was 12,000,000 tons; it now stands at less than 8,000,000 tons.

On the other hand, there are indications that the demand for new vessels is growing. The contraction in international trade would seem to have reached its limit, and it appears likely to revive somewhat in the near future. Moreover the existing fleets are ageing. A high proportion of vessels are 15 years and over. Meanwhile the shipbuilding industry in the crisis has been putting its house in order. Equipment in the yards has been attended to, and an immense improvement in hull forms has been achieved by naval architects. At the same time marine engineers have so improved the design of engines that much greater propulsive capacity can be attained with considerable economy in fuel consumption. It follows that new vessels are so superior to the old ones that they are able to pay their way under conditions in which vessels a few years old can only be run at a loss. The economy of the modern steam-driven, coal-burning tramp vessel is so well established that scrapping of the older tramp vessels on a large scale may be confidently expected in the near future.

There are then some solid grounds for hopefulness as to the future of the industry both in Great Britain and in other countries. The scaling down process will probably have to be continued in some form until world capacity for output is little, if any, above that of the immediate pre-war years. And in the re-adjustment that is taking place some countries will naturally gain at the expense of others. Great Britain and Northern Ireland will probably not regain the 60 per cent proportion of world output which they enjoyed before the war; but there is nothing improbable in the view that their proportion in the future may range from 40 to 50 per cent.

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The main and most accessible sources of information in regard to shipbuilding are the publications of Lloyd's Register of Shipping.

The chief are (*a*) the quarterly returns published in March, June, September, and December each year; (*b*) the Annual Summary of the Mercantile Shipbuilding of the World, published in January each year; (*c*) Report of the Society's operations during the year, published in September each year; (*d*) Lloyd's Register Book and Statistical notes thereon.

Further information can be obtained from the typewritten memoranda circulated periodically by the Shipbuilding Employers' Federation to its members. Information on the labour aspect of the industry can also be obtained from the Trade Unions connected with the industry.

A third source of information is furnished by the technical press, such as *The Times* Trade and Engineering Supplement, *Shipbuilding and Shipping Record, The Shipbuilder and Marine Engine Builder, The Shipping World,* and the Shipbuilding and Engineering Supplement of the *Journal of Commerce* (Thursday edition).

THE IRON AND STEEL INDUSTRY

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THE IRON AND STEEL INDUSTRY

I. INTRODUCTORY

THE sensitiveness of the iron and steel industry to changes in economic and business conditions is now so generally recognized that it has become customary to regard changes in the volume of production of iron and steel as one of the best indexes of business activity in all countries in which iron and steel are produced on any considerable scale. The explanation of the close association which exists between changes in the output of iron and steel and changes in general business conditions is to be found in the fact that operations in the industry and in the industries to which it sells and from which it buys constitute a very considerable part of present day economic activity.

In most industrial countries the iron and steel industrial group itself contributes largely to the volume of industrial production. Further, all the manufacturing industries, and even agriculture, constitute a market for iron and steel products in the form of tools, machines and equipment. The industries connected with the provision of transport, namely railways, shipbuilding, motor and aircraft manufacturing, consume a large part of the output of the industry. Iron and steel are extensively used in the construction of bridges, roads, stations, docks, airports, steel frame buildings of all kinds, furniture, business premises and tenement blocks. Similarly the public utility services consume considerable quantities of iron and steel in the provision of water, gas and electricity. In these and other ways the products of the industry find their way into every department of civil life, while in the provision of armaments and war material the industry is of paramount importance. On the other hand the iron and steel industries themselves constitute an important outlet for the output of other important industries. Thus iron-ore mining, limestone quarrying, and the manufacture of coke are almost entirely dependent upon the iron and steel industry for the disposal of their products, and indirectly coal mining and the

transport services by sea, rail and road are closely affected by the condition of the iron and steel trades.

It follows from these considerations that any interruption to the smooth working of the economic system tends to be transmitted to the iron and steel industry and that it in turn transmits to other industries the effects of dislocations which arise elsewhere. Further, since the iron and steel industry is engaged primarily upon the supply of materials for the capital construction industries in which fluctuations in activity are much more marked than in industry generally, the amplitude of the variations in output tends to be much greater in the iron and steel industry than in most other important industries. Thus over long periods the variation in the output of iron and steel reflects with considerable accuracy the alternations of periods of economic prosperity and depression.

The branches of industrial activity which in Great Britain make the principal demands upon the iron and steel industry are particularly responsive to general business conditions. Thus the greatest single consumer of iron and steel products is the shipbuilding industry and the output of new ships fluctuates with the volume of international trade and therefore with the rate of activity in general business. Building-construction, especially industrial construction, and the installation of machinery also vary with changes in the business outlook. Similarly, the transport industries by rail and road are responsive to changes in general business. In times of depression with declining earnings the railways curtail purchases of materials and equipment and increase purchases as earnings increase in more prosperous times. Similarly, the activity of the motor-car manufacturing industry fluctuates with fluctuations in general business conditions. Further, in Great Britain the iron and steel industry is subject to marked variations in activity due to changes in the volume of the export trade and world trade in iron and steel is particularly responsive to changes in the international economic outlook.

In addition to general influences transmitted to the industry by irregularities in the working of the economic system there are, of course, peculiar factors affecting the industry in each of

the iron and steel producing countries. Thus, in the iron and steel industry there is recorded not only the effects of changes in the *tempo* of international economic activity but also the effects of changes in the competitive strength of the industry in different iron and steel producing countries. The former effects are cyclical in character and the latter secular. The history of the British iron and steel industry in the past decade bears evidence of the operation of these two broad sets of influences.

II. The Iron and Steel Industry in the Pre-depression Period, 1918–29

In the period between the end of the war of 1914–18 and the advent of the world economic depression of 1930–34 the record of the British iron and steel industry has been varied, and its history during these years has presented features of special interest and significance. Let us, therefore, review the history of the industry during this period under five main headings, namely, production, oversea trade, unemployment, prices and finances, and economic efficiency.

Production. In no year since the end of the war has the output of pig-iron in Great Britain reached the level of production of the year 1913, when an output of 10·3 million tons was attained. In the boom year of 1920 the output of pig-iron amounted to 8 million tons, but in the next year 1921, which was one of acute depression accentuated by the three months coal strike in that year, the output of pig-iron fell to 2·6 million tons. The depression continued throughout the greater part of 1922, but in 1923 and 1924 output rose to 7·4 million tons and 7·3 million tons respectively. In these years production in Great Britain was stimulated by the temporary dislocation of French and German production through the occupation of the Ruhr. In 1925 the output of pig-iron declined to 6·3 million tons. Part of the decline from the level of 1923 and 1924 was attributable to increased competition from France and Belgium in export markets, aided by the depreciation of the franc. In June of this year an application under the procedure for the safeguarding of industries was made to the Board of Trade for an inquiry with a view to the imposition of an import duty on pig-iron, wrought

iron, heavy steel, products of iron, wire netting and woven wire. In 1926, as a direct consequence of the prolonged coal stoppage and the general strike, pig-iron production in the United Kingdom fell to 2·5 million tons. As a result of the accumulation of orders during the stoppage in the coal-mining industry the demand for iron in 1927 was considerable, and the output recorded reached 7·3 million tons. Output in 1928 declined to 6·6 million tons, but in 1929 reached 7·6 million tons, the highest level since 1920.

The production of steel followed a course closely parallel to that of pig-iron production. In the case of steel, however, the 1913 level of production has not only been reached but considerably exceeded. Indeed, in only four years between 1918 and 1929, namely, 1921, 1922, 1925 and 1926, has the output of steel been less than in 1913, when 7·7 million tons were produced. In 1929 the output of steel amounted to 9·6 million tons. This level of output has only once been exceeded in the history of the British steel industry. In 1917, as a result of considerable pressure by the Ministry of Munitions, the output of steel reached 9·7 million tons.

It is apparent that the production of pig-iron has tended to decline, while that of steel has definitely increased. The explanation of this situation is to be found in the increased use of scrap for steel-making and in iron foundries and in the decline in the production of wrought iron and in the export trade in pig-iron.

In considering the changes in the volume of production of iron and steel in the post-war period it is important to remember that the productive capacity of the industry is very much greater than it was before the war. The capacity of the blast-furnaces is estimated to have been about 11,000,000 tons in 1913 and 12,000,000 tons in 1927; while the capacity of steel works was 8,000,000 tons in 1913 and 12,000,000 tons in 1927. Thus in the post-war years production of pig-iron has never amounted to more than 66 per cent of blast-furnace capacity and steel production has never exceeded 80 per cent of steel works capacity. The existence of excess capacity has been one of the principal problems of the British iron and steel industry in the post-war period.

OVERSEA TRADE. Although annual imports of iron and steel and manufactures thereof into the United Kingdom in the period

under review have varied widely (from 0·5 million tons in 1919 to 4·4 million tons in 1927), nevertheless there is no doubt that the tendency has been toward an increase in the volume of imports. In every year from 1924 to 1931 the tonnage of iron and steel imports exceeded the pre-war maximum volume of imports of 2·2 million tons in 1913. Competition with British manufactures in the British market appears to have been most successful in those classes of steel, such as billets and bars, which lend themselves to mass production. Imports of the more highly finished products into the country from abroad are comparatively small. Imports into the United Kingdom have been consigned mainly from France, Belgium and Germany. In dealing with this topic it may be noted that it has been stated that "the fact that the Continental makers can dispose of their surplus production in the British market assists them in running their works nearer to maximum and with correspondingly greater efficiency, while conversely the loss of this business to the British makers seriously hampers them by reducing their efficiency and so increasing their costs."[1]

In the export trade in iron and steel annual variations have been much less marked. Since the end of the war the minimum export tonnage amounted to 1·7 million tons in 1921 (a year of stoppage in the coal industry) and the maximum export tonnage was 4·4 million tons in 1929. The general tendency has been towards stability of exports at a level below that of pre-war years. The average annual exports from the United Kingdom in the eleven years 1903–1913 was 4·3 million tons, whereas in the eleven years 1919–1929 average annual exports works out at 3·5 million tons. There can be no doubt that the loss of export trade is attributable directly to the consequence of the war in having stimulated iron and steel production in other countries and having involved loss of contact between British manufacturers and their pre-war oversea customers.

It may be noticed that between the earlier and later years of the post-war period there has been no change in the distribution of iron and steel exports of the United Kingdom between foreign

[1] Committee on Industry and Trade, *Survey of Metal Industries*, 1928, page 18.

countries and countries within the British Commonwealth. British countries took 50·9 per cent of the United Kingdom iron and steel exports in 1924 and 50·2 per cent in 1929, while foreign countries absorbed 49·1 per cent in the earlier year and 49·8 per cent in the later year. The position in this respect is not greatly different from that of 1913 when exports to British countries amounted to 48·7 per cent and to foreign countries 51·3 per cent of the total exports of British iron and steel. There have, of course, occurred interesting and significant changes in the distribution of the export trade between different individual countries which compose the two main groups. But for the purpose of this memorandum a detailed examination of the position appears unnecessary. As is indicated later, the Committee on Industry and Trade made an intensive study of the movements of the iron and steel trade in the early post-war years, and this source of information can be readily supplemented by an examination of the trade statistics published by the National Federation of Iron and Steel Manufacturers.

UNEMPLOYMENT. In the heavy branches of the iron and steel industry, namely, blast-furnaces, steel melting furnaces, rolling mills and tin-plate mills, unemployment since the end of the war has fluctuated as might be expected with variations in activity in the industry. The unemployment insurance statistics show that in January, 1922, 35·7 per cent of the persons insured in the heavy branches of the industry were recorded as unemployed. By the middle of 1924 unemployment had fallen to 16·5 per cent. During the stoppage in the coal-mining industry in 1926 unemployment rose to 57·4 per cent but declined to a level of about 20 per cent in 1927 and remained at approximately that level until the end of 1929. Throughout the post-war period unemployment in the heavy branches of the iron and steel industry has been twice as high as unemployment in industry generally.

The number of persons attached to the heavy sections of the industry increased from 300,000 in 1922 to 324,000 in 1924, but thereafter declined to 232,000 in 1929. That the opportunities for employment in the heavy branches of the industry have declined during the post-war period can be illustrated by examining the position with regard to employment (defined as the

difference between the number of persons insured and the number of insured persons recorded as unemployed) in the principal section of the industry, namely, steel melting and rolling. In the middle of 1924 there were 207,000 persons insured at steel furnaces and rolling mills and of this number 38,500 or 18·6 per cent were unemployed. At this date, therefore, there were approximately 169,000 persons in employment. In the middle of 1929 the number of persons insured in this division of the industry had declined to 179,000 of whom about 35,000 or 19·3 per cent were unemployed. There were, therefore, in this year only 144,000 persons in employment. Between these years, however, the output of steel ingots and castings had increased from 8·2 million tons to 9·6 million tons, while the output of finished steel products increased from 6·7 million tons to 7·6 million tons.

PRICES AND FINANCE. The post-war history of British iron and steel prices is recorded in the movements of the index number of iron and steel prices compiled by the Board of Trade. This index number includes twenty-four iron and steel products and is published monthly. Taking the average of prices in 1913 as a base the index number at the height of the 1920 boom reached 390·6. By the end of 1922 it had fallen to 131·3. Prices rose during the occupation of the Ruhr, and in April, 1923, the index stood at 160·4. From this date prices continued to fall until the end of 1925 when the index number stood at 118·3. The restoration of the gold standard in 1925 exercised a downward pressure on prices, especially in the export trades. The scarcity created by the coal stoppage in 1926 sent prices up and in November the iron and steel index stood at 134·5. The average for the year, however, was 123·5. In 1927 and 1928 the index number of iron and steel prices declined to 119·9 and 112·3 respectively. During 1929 prices for iron and steel products rose a little, but the index was never higher than 115·3.

The Board of Trade's general index of wholesale prices fell from 307·3 in 1920 to 136·5 in 1929. A comparison of the movement of the general index with that relating to iron and steel shows that since 1921 iron and steel prices returned more nearly to the pre-war level than prices of commodities in general. This relative cheapening of iron and steel was not accompanied by a

corresponding reduction in costs and consequently the production of iron and steel tended to be unprofitable. An analysis of the financial results of nine iron and steel companies shows that the sum required for the payment of debenture interest and as dividends on preference shares has been greater than before the war, and in consequence the amount available for distribution to ordinary shareholders has been less.[1] Since 1920–21 heavy drafts have been made by these companies on reserves and on balances carried forward. A considerable number of important firms in the iron and steel industry have paid no dividend on their ordinary shares since 1921. To some extent, therefore, years of good output have been years of "profitless prosperity." This situation is explained by (1) the existence of excess productive capacity in the industry, (2) the more rapid fall of iron and steel prices than of costs, and (3) the financial structure of the industry.

EFFICIENCY OF THE INDUSTRY. It is true, as the Committee on Industry and Trade observes, that the normal post-war competitive position of the British iron and steel industry cannot be accurately judged from practical experience. In the earlier post-war years the iron and steel industry in the chief Continental countries had not been restored to normal working efficiency, and in 1923 and part of 1924 it was disorganized to some extent by the circumstances arising out of the occupation of the Ruhr. In the later part of 1924 and in 1925 the competitive power of the French and Belgian industry was increased by the effects of currency depreciation and, at the same time, the competitive power of British industry was handicapped by difficulties of price adjustment necessitated by the restoration of the gold standard and a falling level of gold prices. The stoppage at the coal mines seriously affected the iron and steel industry in 1926.

In the years 1927, 1928, and 1929, however, the British iron and steel industry showed signs of vigorous competitive strength. Production of steel and exports of iron and steel manufactures in these three pre-depression years were restored to approximately pre-war level. This achievement is to be attributed in part to the increased demand for iron and steel products which

[1] Committee on Industry and Trade, *Survey of Metal Industries*, 1928, page 44.

accompanied the revival of international economic activity. But it is also due in some measure to the restoration of the competitive power of the British iron and steel industry. In these years the industry was beginning to reap the benefits of increased technical efficiency in all branches and of reorganization through amalgamations of competing and complementary companies and co-operative agreements among producers concerning prices, rebate schemes, export selling, new uses for steel, and research.

In the case of the blast furnace division of the industry it may be noticed that in 1924 with an average of 185 furnaces in blast 7·3 million tons of pig iron were produced whereas in 1929 7·6 million tons were produced with an average of 158 furnaces in blast. Similarly in the steel melting division of the industry there were in 1924 665 open-hearth steel furnaces in the United Kingdom and the output of steel ingots and castings amounted to 8·2 million tons, whereas in 1929 the number of furnaces had been reduced to 595 and the output increased to 9·6 million tons. Further, as we have seen, the number of men employed in the production of this greater volume of output had been very markedly reduced.

The most important amalgamations of the pre-depression years affected the South-Durham and Cargo Fleet iron and steel companies, Dorman Long and Bolckow Vaughan, Cammell Laird and Vickers, Guest, Keen & Nettlefold and Baldwins Limited, Colville and Beardmore, the Lancashire Steel Corporation, and the United Steel Companies.

In addition to the amalgamations of individual companies co-operation of producers within the industry was advanced by the formation in 1929 of the British Steel Works Association "to promote and develop the production and use of structural steel and steel-work," and the British Steel Export Association to replace an Export Sales Committee which, since 1928, had dealt with export inquiries for the heavy steel makers. Co-operative research has been stimulated by the formation of an Industrial Research Council under the auspices of the National Federation of Iron and Steel Manufacturers. The establishment in 1927 of a system of rebates to consumers of finished steel who agreed to purchase solely from British manufacturers over a

stated period represented a further attempt on the part of the British steel makers to retain their position in the home market.

Finally, it should be noted that throughout the entire pre-depression period British iron and steel manufacturers attributed many of the difficulties of the industry to the relatively higher level of wages in Great Britain than on the Continent, high imperial and local taxation, social services, transport charges, tariff barriers abroad and a free import market at home.

III. The Iron and Steel Industry in the Depression, 1930–34

We now come to consider briefly the sequence of events in the iron and steel industry during the world economic depression. It will be convenient to deal with this topic on the same lines as those followed in the previous section.

Production. The production of iron and steel in Great Britain reached the post-war maximum in 1929. Monthly output reached a peak in October of that year when 689,000 tons of pig-iron and 890,000 tons of steel were produced. In the same month there occurred the crash on the New York Stock Exchange which precipitated a rapid fall of prices. The subsequent dislocation of economic conditions in the United States was rapidly communicated to Europe. By the end of the year the rate of production of iron and steel in Great Britain had fallen away considerably from the October level. In the Spring of 1930, however, there was a considerable increase in the rate of production in both branches of the industry, but the improvement was short-lived. In April the monthly output of iron and steel was 620,000 tons and 696,000 tons respectively. From that date production declined irregularly until the output of iron reached the low level of 248,000 tons in September, 1931, and steel output 357,000 tons in August of that year. Throughout 1932 the rate of production was not noticeably different from that of 1931. The annual output of pig-iron which had been 7·6 million tons in 1929 fell to its lowest level of 3·6 million tons in 1932, while the annual production of steel fell from 9·6 million tons in 1929 to the low level of 5·2 million tons in 1931 and 5·3 million tons in 1932. By the Spring of 1933 the worst of the depression was over as far

as the iron and steel industry was concerned. The preservation of the home market as a consequence of the imposition in April, 1932, of a protective tariff on foreign imports of iron and steel was by this time beginning to have effect. Output of pig-iron during 1933 increased to 4·1 million tons and the output of steel to 7 million tons. The improvement in the position of the industry has continued through the first half of this year (1934).

OVERSEA TRADE. One of the first effects of the spread of the economic depression was the reduction of the oversea demand for British iron and steel products. The exports of iron and steel from the United Kingdom ports fell from 4·4 million tons in 1929 to 3·2 million tons in 1930. This reduction of 1·2 million tons between these years was almost equal to the amount of the decline in the production of finished steel products which amounted to 1·5 million tons in the same interval. With the intensification of the crisis exports declined to 2 million tons in 1931 and 1·9 million tons in 1932 and 1933. Thus in 1932 and 1933 exports of iron and steel were 2·5 million tons less than in 1929, and in these years exports amounted to only 43 per cent of the 1929 level. Exports in the first quarter of 1934 amounted to 477,000 tons. This is a slight improvement on the figures for the corresponding quarter of the preceding year, but there is no suggestion that the restoration of the normal export trade of the British iron and steel industry is imminent. Indeed, unless there is an appreciable increase in the later part of the year exports are not likely to exceed in volume the level of the three preceding years. Many difficulties still confront the export trade. Of these the most important are tariff barriers, quota systems, restrictions on exchange dealings and uncertainty regarding future payments, which are the inevitable accompaniment of unstable currency conditions.

An examination of the monthly figures shows that (neglecting seasonal movements) exports of iron and steel fell almost continuously from 1929 to the Autumn of 1931. After the suspension of the gold standard in September, 1931, there was a brief temporary revival in the months of October, November and December, but the downward movement continued until the lowest monthly export level of 127,000 tons was reached in September, 1932.

With regard to the distribution of the export trade between British and foreign countries, it would appear that there was some tendency in 1931 and 1932 for the proportion of iron and steel exports to British overseas countries to increase a little. Although full information is lacking it seems as if this position is being maintained in 1934. In the five months ended 31st May, 53·3 per cent of the exports of iron and steel manufactures from the United Kingdom went to British countries. But the tendency, if it is in fact present, is by no means appreciable and is in any case operating slowly. It is worthy of notice that British countries took 48·7 per cent of United Kingdom exports in 1913 and 54·3 per cent in 1925.

It is possible that the effect of the arrangements made in connection with the Ottawa Conference of 1932 has been to increase the proportion of British iron and steel exports taken by British overseas countries. But the possibilities in this direction are limited since the principal empire markets for iron and steel, viz. India, South Africa and Australia, were either not at all or only very slightly affected by the Ottawa agreements. Canada may increase her proportion of British iron and steel imports in consequence of the abolition of the duty against British imports on 15 of the 55 items in the Canadian tariff schedule, and the increase in the British preference in the case of 25 other items either by a reduction in the British duty, supplemented in certain cases by an increase in the general duty, or by an increase in the general duty.

Some of the trade agreements concluded between the British Government and foreign countries, particularly those with Denmark, Norway and Sweden, are expected to help the trade in iron and steel with non-British countries, but in most cases the tonnages concerned are small. The stabilization of tariffs during the period of the agreements is likely to be the most valuable feature of the agreements. The continual rise in tariff barriers which has characterized the recent past has had a disturbing effect upon the industry.

Turning to the import trade an examination of the statistical position shows that the volume of imports of iron and steel products into the United Kingdom in the first two years of the

depression (1930 and 1931) remained at almost practically the level of the imports of the two pre-depression years (1928 and 1929), viz. between 2·8 million and 2·9 million tons per annum. Imports of iron and steel exceeded exports in quantity by 0·8 million tons in 1931, but not, of course, in value. British iron and steel exports, as is well known, are mainly of highly manufactured products, while imports consist primarily of crude and semi-manufactured products. The value of the imports in 1931 was £20,000,000 while the value of exports was £30,000,000. In 1932 and 1933 imports fell off rapidly to 1·6 million tons and 1 million tons respectively. During the first quarter of the present year (1934) 365,000 tons of iron and steel were imported. The maintenance of this rate of importation throughout the year would bring the volume of imports in 1934 to approximately 1·5 million tons, or (if the exceptional years 1926 and 1927 are excluded) to little more than half the imports in the pre-depression years.

The great reduction in imports of foreign iron and steel must be attributed mainly to the imposition of a protective duty of 33⅓ per cent on a large variety of products in April, 1932. Imports on a large scale were thereby excluded and home production of iron and steel has increased as a result of partial economic recovery behind the general tariff. The duty was first imposed for a period of three months and on the expiry of that period for another three months. In October, 1932, the duties were continued for a further period of two years, and in May, 1934, the period limit was removed. The countries most affected by the restriction of imports are Belgium, France, Germany and Luxemburg.

UNEMPLOYMENT. The vicissitudes of the British iron and steel industry in the depression years are vividly recorded in the movements of the volume and percentage of unemployment among the insured workpeople attached to the industry. In the heavy branches of the industry, i.e. blast-furnaces, steel-furnaces, rolling-mills, and tin-plate mills, there were, as we have seen, some 43,000 persons or 18·7 per cent of the 232,000 insured workers in these sections unemployed in the middle of the year of maximum post-war activity (1929). In July, 1932, the number of persons unemployed had increased to 104,000, and this

represented no less than 48 per cent of the 217,000 insured workers in the heavy sections of the industry in that year. By the middle of 1933 the volume of unemployment had declined to 77,000 persons or 36·4 per cent of the 211,000 insured workers in that year. In May of this year (1934) there were 57,000 persons unemployed in the same sections of the industry. This number represents 27 per cent of the workers insured under the unemployment insurance scheme in July of the previous year. Unemployment in the iron and steel industry in the depression years as in the pre-depression years has remained on the average about twice as high as in industry generally.

It will be observed that the number of workers attached to the industry has continued to decline. In July, 1929, there were 232,000 persons insured in the heavy sections of the industry. In July, 1930, this number had increased slightly to 234,000 (probably in consequence of the changes introduced by the Unemployment Insurance Act of 1930). In July, 1933, the number of insured workers had declined to 211,000 persons.

Employment (defined as in the previous section of this memorandum) at steel furnaces and rolling-mills was at its lowest in the middle of 1932 when only 96,000 of the 168,000 persons included in this, the principal division of the industry, were employed. This number is to be compared with a volume of employment of 169,000 persons in 1924 and 144,000 persons in 1929. With the exception of shipbuilding no other industry has suffered so seriously from unemployment during the depression as the iron and steel industry.

PRICES AND FINANCE. Price changes during the depression for the most important iron and steel products are recorded in the movements of the Board of Trade index number. It will be recalled that on the year 1913 as base this index number in 1929 was 114·2, i.e. 14·2 per cent above the level of 1913. In 1930 the index number had declined a little to 112·7, but in the next year (1931) there occurred a more marked fall in prices, and the index number for the year worked out at 104·9. The decline continued at a slower rate during 1932, and the yearly average of the monthly index number stood at 103·7. In July of that year the lowest point (102·8) of the iron and steel price index

was reached. Prices strengthened during 1933 and the index number rose to 105·8. In March of this year (1934) the index number had increased still further to 109·2. The arrest of the downward movement of prices in the Summer and Autumn of 1932 and its reversal in 1933 is attributable in part to the effects of the suspension of the gold standard in 1931, and in part to the intensification of domestic demand for British iron and steel as a result of the adoption of a policy of protection in 1932.

An interesting feature of recent changes in the price structure which is of special significance to the iron and steel industry is the reversal of the pre-depression relation between iron and steel prices and the prices of commodities in general. The fall in the Board of Trade general index number of wholesale prices has been much greater than the fall in the iron and steel price index. In 1929 the general index was 136·5, while that for iron and steel was 114·2, so that iron and steel prices had risen less above the pre-war (1913) level than commodities in general. In 1931 the pre-war relationship between iron and steel prices and the general price level was restored when the index of iron and steel prices and the general index were both at about 104, i.e. 4 per cent above the 1913 average. In subsequent years the pre-depression position has been reversed. Iron and steel prices in 1932 were 3·7 per cent above the pre-war level, whereas prices of all articles included in the Board of Trade's index number of wholesale prices were only 1·6 per cent above the 1913 level. The improvement in the relative position of iron and steel prices continued in 1933 when the iron and steel price index was 105·8 and that representing all articles 100·9. This new relationship has been maintained in the current year (1934). In March iron and steel prices were 9·2 per cent above the pre-war level, whereas the general price level was only 3·8 per cent above the pre-war level.

Under the circumstances, therefore, the financial prospects of the iron and steel trade have improved, for prices for their products have strengthened while prices of commodities in general are relatively lower. This advantage may, of course, be counteracted by any tendency for the prices of the industry's

raw materials to rise as fast as iron and steel product prices and by demands for wage increases under selling price sliding scale agreements.

Some further alleviation of the financial position of iron and steel companies has resulted from the opportunity presented by the low rates of interest prevailing during the depression to reduce the burden of fixed interest charges and to obtain capital for new developments on advantageous terms. In some cases the Bankers' Industrial Development Company has aided the process of re-financing. In the case of some companies, however, sweeping financial reconstruction has been necessary, and the permission of the Courts has been sought for drastic reductions in nominal capital. Several iron and steel concerns are in debt to the banks and some have had to declare a moratorium on their debenture payments. When the depression is over it will probably be found to have swept away a good deal of the weak financial structure of the post-war years.

ECONOMIC EFFICIENCY. There can be little doubt that technical efficiency of plant in the iron and steel industry has been increased during the years of depression. Many companies have taken the opportunity which dull trade affords to install new and improved plant and to overhaul existing equipment. Among the concerns which have followed this policy may be mentioned John Lysaght, Ltd., Skinningrove Iron Co., Dorman Long & Co., Cargo Fleet, Lancashire Steel Corporation, British (Guest, Keen, Baldwins) Iron & Steel Co., Vickers, Ltd. (at the English Steel Corporation's works) and Wm. Baird & Co. Ltd. Perhaps the most interesting and important technical development in the depression period was the decision in November, 1932, of Stewart and Lloyds, Ltd., to erect a works at Corby, Northamptonshire, to produce steel by the basic Bessemer process. The Corby plant will group coke, iron and steel production on ore deposits instead of on a coalfield. The scheme is the first development of the Northamptonshire ore field planned on a large scale. The Bankers' Industrial Development Co., has arranged the finance of the scheme which is estimated to cost over £3,000,000.

Amalgamations, acquisitions and agreements among iron and

steel producing companies have proceeded during recent years. In 1932 the Lancashire Steel Corporation acquired the Whitecross Company and the United Steel Companies acquired the North Lincolnshire Ironworks. In 1933 a proposal to amalgamate Dorman Long & Co. Ltd., and the South Durham Steel and Iron Co. Ltd., and their respective associated companies was announced. But owing to active opposition in the Courts by certain groups of shareholders, this scheme has not been completed. In 1933 a working agreement was concluded between the Whitehead Iron & Steel Co. Ltd., and Richard Thomas & Co. Ltd., under which the latter company re-opened their Redbourn steel works at Scunthorpe for the manufacture of billets for the Whitehead rolling-mills at Newport. In January, 1933, Cleveland and Midland producers of pig-iron made a working agreement to eliminate competition in the home market and about the same time an important scheme was formulated for the revival of the pig-iron warrant market and the establishment of warrant stores in Cleveland, Lancashire and Scotland. British producers are members of the International Tube Cartel and the International Rail Makers' Association, and in January, 1934, an agreement especially affecting conditions of trade in the Scandinavian market was reached between British steel makers and the Continental Steel Cartel. In these and other ways something has been done to increase co-operative action and, therefore, the efficiency of the British iron and steel industry.

There are, on the other hand, signs that the industry finds it difficult to carry through voluntarily the large scale readjustments which are expected of it in the interests of efficiency by the general public, the Government and the iron and steel consuming industries. One of the most significant of these is contained in the history of the attempt of the National Committee of Iron and Steel Manufacturers, set up at the suggestion of the Import Duties Advisory Committee, to make proposals for the reorganization of the industry. The Committee, formed in June, 1932, appointed a small executive committee, regional committees and sub-committees to deal with special branches of the industry. In its first report to the Import Duties Advisory

Committee in September, 1932, the National Committee indicated that the problem with which it was presented was of a three-fold character, namely (1) to secure that all the iron and steel requirements of the nation, including the manufacture of steel for export, are met to the maximum possible extent by its own iron and steel industry; (2) to carry through the reorganization and adjustments necessary to enable the industry to meet the country's requirements at the lowest possible cost and with the maximum resultant expansion of trade; (3) to stop wasteful competition between manufacturers in this country. The Advisory Committee was assured, however, that the industry had devised an organization which was progressively working towards a national solution of its many problems, and was urged to recommend the continuance of the protective duties, amended in the industry's favour, for a further period of two years. The Import Duties Advisory Committee recommended the continuance of existing duties for a further period of two years "subject to satisfactory progress being made in the preparation of the scheme of reorganization and in putting the approved scheme into force."

In March, 1933, a scheme described by the Executive Committee responsible for its production as "a scheme for establishing the machinery whereby a reorganization of the industry may be carried out, rather than a scheme of reorganization itself" was submitted to the Import Duties Advisory Committee with the approval of a substantial majority of the National Committee, and the hope was expressed that the Advisory Committee would agree that the scheme provided satisfactorily for progressive reorganization. This draft scheme was accepted by the Government in a letter from the Chancellor of the Exchequer to the Chairman of the Import Duties Advisory Committee as evidence that work on reorganization had been steadily proceeding and as constituting "a real step forward in the required direction." At the same time it was pointed out that, as the National Committee itself recognized, much remained to be done before the industry could be said to be properly equipped and organized, and the industry was invited to press on with the work of reorganization on a voluntary basis. On the 1st January, 1934, a revised

scheme was submitted to the Import Duties Advisory Committee by the National Committee as its final report. This scheme amended in certain important respects was accepted by a majority of the representatives of the iron and steel industry at a special general meeting of the National Federation of Iron and Steel Manufacturers in April, and was then transmitted to the Import Duties Advisory Committee with representations as to the desirability of an early announcement in regard to the continuance of the existing duties. In May, 1934, the Import Duties Advisory Committee, in the belief that progress in the industry would thereby be facilitated, recommended the removal of the time limit to the import duties (October, 1934) and an order to this effect was made by the Treasury in the same month. In making this recommendation the Advisory Committee was careful to observe that the new scheme is of a less compelling character than the outline scheme submitted in March, 1933, and that it remains in essence a piece of machinery presenting great possibilities of usefulness to the industry and to the nation at large and that its ultimate success will depend upon the vigour and single-mindedness with which the machinery is used. It also observed that it accepted the resolution which accompanied the revised scheme as an assurance that no time will be lost in completing the new central organization of the industry which the scheme proposes so that attention can at last be concentrated on the real objects of the scheme, namely (1) the provision of the maximum manufacturing and commercial efficiency throughout the industry, and (2) the expansion of the export trade in iron and steel products.

As far as can be judged the new scheme does little more than provide for the reorganization of the existing central organization of the industry, the National Federation of Iron and Steel Manufacturers, under a new name, viz. the British Iron and Steel Federation, with a revised constitution. No efficiently operating large-scale reorganization of the British iron and steel industry has yet been achieved. Nevertheless it will be agreed that the creation by the industry itself of an organization designed to facilitate reconstruction is an indispensable step in the successful reorganization of an important industry.

NOTES ON POST-WAR BRITISH OFFICIAL INQUIRIES INTO THE POSITION OF THE IRON AND STEEL INDUSTRY OF GREAT BRITAIN

1. "Civil Research Committee of the Cabinet," July to December, 1925. In June, 1925, an application under the procedure for the safeguarding of industries was made to the Board of Trade for an inquiry with a view to the imposition of an import duty on pig-iron, wrought iron, heavy steel products, wire, etc. This application was suspended by the Government pending an exhaustive inquiry into the position of the iron and steel industry by the Committee of Civil Research. No report was published but in December, 1925, after the Committee had reported to the Cabinet, the Prime Minister announced in the House of Commons that the application for an inquiry under the safeguarding of industries procedure could not be granted.

2. "The Committee on Industry and Trade" devoted the first chapter of its Survey of the Metal Industries to the Iron and Steel Industry. This chapter contains four sections and three appendixes. Section 1 is introductory and historical; Section 2 deals with the iron and steel industries after the war under the following main heads: (*a*) Productive capacity and methods; (*b*) Organization of the Industry; (*c*) Economic conditions. Section 3 analyses in detail British overseas trade in iron and steel manufactures, and Section 4 examines the British iron and steel industries in relation to world production and trade. Appendix I reviews the iron and steel industry in other countries; Appendix II consists of Statistical Tables, and Appendix III gives particulars of some large undertakings in the United Kingdom

Additional information relating to the iron and steel industry is to be found in several of the other volumes published by the Committee.

3. "Civil Research Committee of the Cabinet," July, 1929, to May, 1930. No official report of this investigation has been published. The following note, which has been derived from a pamphlet entitled "Wohin Steuert Englands Schwerindustrie?" published at the end of September, 1930, by the *Kölnische Zeitung*, must therefore be used with discretion. According to this pamphlet the Committee was set up as a result of a request made to the Labour Government in 1929 by the leading trade union in the industry, for an investigation into the position of the industry with special reference to the tariff question. The Committee, presided over by Lord Sankey, held 26 meetings, in the course of which statements from leaders in the industry, trade unions, representatives of related industries, bankers and professional experts were considered. The Committee dealt with the supply of raw materials, the position and capacity of blast-furnaces and steel works, and conditions in other branches of the industry, such as tin plates, conditions affecting the supply of scrap, questions of wages and hours, the cost of modernizing plant, production costs in relation to the location of plant and foreign competition, the desirability of regional amalgamations and

the financing of reorganization. The conclusion apparently reached by the Committee was that reorganization should be hastened in the first instance without protection, and that if reorganization by itself did not enable the industry to hold its place against foreign competition, then recourse to safeguarding for a period which would be adequate for the recovery of the industry would have to be considered seriously.

4. The "Industrial Surveys" of South-West Scotland, the North-East Coast, Lancashire and South Wales made for the Board of Trade in 1931 by the Economics Department staff of the Universities in these areas contain memoranda relating to the iron and steel industry which deal particularly with the present position of the industry, the prospects of development and the problem of employment capacity.

LIST OF REPORTS, ORDERS, BOOKS AND PAMPHLETS RELATING TO THE BRITISH IRON AND STEEL INDUSTRY

BRITISH OFFICIAL REPORTS AND ORDERS, ETC.

Departmental Committee of the Board of Trade—

The Iron and Steel Industries after the War. Cd. 9071 (1917).

Committee on Industry and Trade—

Survey of the Metal Industries (1928).

Economic Advisory Committee—

Report of Delegation on Industrial Conditions in the Iron and Steel Industries in France, Belgium, Luxemburg, Germany and Czechoslovakia. Cmd. 3601 (1930).

Board of Trade—

Industrial Survey of South-West Scotland (1932).
Industrial Survey of the North-East Coast (1932).
Industrial Survey of Lancashire (1932).
Industrial Survey of South Wales (1932).

Census of Production (1924)—

Final Report on the Iron and Steel Trades, etc. (1931).

Census of Production (1930)—

Final Report (1934).

Import Duties Advisory Committee—

Additional Import Duties (No. 1) Order, 1932, Cmd. 4066 (1932)
Additional Import Duties (No. 2) Order, 1932, Cmd. 4101 (1932)
Additional Import Duties (No. 3) Order, 1932, Cmd. 4117 (1932)
Additional Import Duties (No. 8) Order, 1932, Cmd. 4181 (1932)
Additional Import Duties (No. 18) Order, 1932, Cmd. 4589 (1934)
Iron and Steel Reorganization Scheme, correspondence with the National Committee for the Iron and Steel Industry (1933)

BOOKS AND PAMPHLETS

G. C. Allen: British Industries and their Organization (1933)
M. S. Birkett: The Iron and Steel Industry since the War (1930)
H. S. Jevons: British Steel Industry (1932)
J. Jewkes and A. Winterbottom: An Industrial Survey of Cumberland and Furness (1933)
J. L. Walton Newbold and Others: The Iron and Steel Industry (1925?)
Iron and Steel Trades Confederation: Statement of Evidence submitted to the Sub-Committee of the Committee of Civil Research (1929)
Iron and Steel Trades Confederation: What is Wrong with the British Iron and Steel Industry? (1931)
Kölnische Zeitung: Wohin Steuert Englands Schwerindustrie? (1930)
Political and Economic Planning: Report on the British Iron and Steel Industry (1933)
The Times Trade and Engineering Supplement: Reorganization of the British Iron and Steel Industry (1932)

ENGINEERING

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ENGINEERING

1. A COMMONPLACE statement, nevertheless important, with which all accounts of Engineering must inevitably begin, is that there is not one industry but many. It is customary to point out its widely scattered and pervasive character: "no great centre of population is without some important share in Engineering,"[1] and to conclude by indicating, first, that some of its branches have developed special characteristics as they have become specialists in response to the machine needs of their locality and, secondly, that all possess an underlying unity because of their common base in the working up of metal products to a finished stage which, more often than not, though more so formerly than latterly, is characterized by production and not consumption goods. This is enough to show the importance of Engineering for the modern age: the point may be clinched by noting the size of the industry. Definition of the limits of the industry often varies: it has been said that in any attempt at definition decision must be arbitrary, but no sensible definition should fail to bring out a magnitude measured by rather more than a million workpeople. It follows from what has been said of its importance for the present industrial system and of the labour force that is attached to it that disturbances to its progress will necessarily be generally important, and it also follows from the nature of its product that such disturbances, whether external to it, such as war, or it may be internal to it, but fortuitous and unpredictable, such as invention, or more strictly economic, such as are involved in cyclical fluctuations, will tend to be violent, or, at least, on a major scale. It may also be inferred that a country which establishes such forms of activity relatively early may experience competition as other countries, first in a dependent condition, establish a similar industrial system and in doing so establish also their own equipment industries. At hardly any

[1] G. C. Allen: *British Industries and Their Organization*, p. 137.

period therefore in its history can a country's engineering industry be expected to present a simple and uncomplicated aspect. The picture will necessarily always be complex. This is true of British Engineering, and, because of a combination of the various forces mentioned above, some affecting it in a high degree, it is a truth which is very evident from a reading of British Engineering in the post-war period. For these reasons the limits indicated by the word "crisis" when Engineering is being considered must differ from those set by associating crisis more specifically with the sequence of events in the years 1930 and 1931. In some sections of Engineering, for example Marine Engineering, and an important group of firms masked by the Ministry of Labour category "General Engineering" the post-war period as a whole has been characterized by a disequilibrium deserving the description "crisis." For them the sequence of events from 1930 onwards has been the aggravation of an already difficult situation; for others the development of depression has meant a check with much less complex roots. Figures which support this interpretation are given in Appendix A.

2. It is impossible in this space to go into the details of the position of all the different branches of Engineering, but the conclusion of the first paragraph will serve as a clue, and as an aid to interpretation, in the analysis which follows. An attempt will be made, by using the figures recorded under the Unemployment Insurance Acts, to show the changes which have taken place in the labour forces of the different sections; secondly, some indication of production trends will be given by comparing the data of the Census of Production of 1930 with that of 1924; thirdly, a section will be devoted to an examination of trends in imports and exports and, finally, a short summarizing section will present comment of a more general nature, dealing mainly with General, Electrical, and Marine Engineering, and the Making and Repairing of Vehicles, including under this head motor-cars, motor-cycles and aircraft. This final list, it is true, omits some trades, such as Constructional Engineering, and Heating and Ventilating Engineering, but they cannot conveniently be considered in separate categories. Incidental mention of their position will be made in other sections where it is necessary, and some of

the data relating to the more important of them are presented in section 3.

3. The situation may most conveniently be outlined by presenting first figures drawn from the Unemployment Insurance statistics published by the Ministry of Labour. These give the numbers insured in General, Electrical, Marine, and Constructional Engineering, and in the categories called Motor Vehicles, Cycles and Aircraft, Carriages and Carts, Railway Carriages Wagons and Tramcars, and Electric Cable, Apparatus and Lamps, the percentages unemployed and the numbers employed in these eight trades for the years 1923, 1929 and 1933. The table is lengthy and is added at the end of this note as Appendix A.

(*a*) Ranging the eight sections in order of magnitude as indicated by the Ministry of Labour's estimate of the numbers insured in them provides an opportunity of stating the numbers and also of indicating the changes which have taken place over the period in their relative status.

At all three dates General Engineering ranks an easy first with 666,950 workpeople in 1923 and 528,190 in 1933. It is seconded at each date by Motor Vehicles and Cycles, etc., with 191,830 in 1923 and 261,720 in 1933, and ranking third at each date is Electric Cables, etc., with 72,120 and 125,570 workpeople in 1923 and 1933 respectively.

In the lower part of the table, however, is a shift of place. Marine Engineering which ranked fourth in 1923 with 65,540 workpeople had dropped to fifth by 1929 and was still fifth in 1933 with 46,220 workpeople. The fourth place had been taken by Electrical Engineering which ranked fifth in 1923 with 60,960 workpeople and held an easy fourth place in 1933 with 90,590 workpeople.

The sixth place was held at each date by Railway Carriages, Wagons, etc., with 50,700 workpeople in 1923 and 45,180 in 1933. In the last two places a shift has taken place between Carriages and Carts and Constructional Engineering. Carriages and Carts ranked seventh in 1923 with 28,100 workpeople, but eighth in 1933 (to which place they had dropped by 1929) with 17,220 workpeople. Constructional Engineering which ranked last in this list in 1923 with 23,230 workpeople had climbed into the

seventh place by 1929 and held this in 1933 with 29,200 workpeople.

Merely noting the relative places in the table the features which stand out are the loss of status of Marine Engineering and Carriages and Carts, the climb of Electrical and Constructional Engineering and the consistently high places maintained by Motor Vehicles and Electric Cables.

(*b*) A closer examination of the figures, however, shows more important shifts. Of these eight sections four have contracted over the period 1923–33, namely, General Engineering from 666,950 workpeople to 528,190, a loss of 138,760, Marine Engineering from 65,540 to 46,220, a loss of 19,320, Carriages and Carts from 28,100 to 17,220, a loss of 10,880, and Railway Carriages, Wagons, etc., from 50,700 to 45,180, a loss of 5520. Four have expanded, Electrical Engineering from 60,960 workpeople to 90,590, a gain of 29,630, Constructional Engineering from 23,230 to 29,200, a gain of 5970, Motor Vehicles, etc., from 191,830 to 261,720, a gain of 69,890 and Electric Cables, etc., from 72,120 to 125,570, a gain of 53,450. In every instance except one, moreover, the changes are unbroken. General Engineering had contracted by 80,200 workpeople by 1929, and Marine Engineering by 7090, while to take one example of the opposite tendency Motor Vehicles had gained 53,580 of its total gain of 69,890 by 1929. The exception is Railway Carriages and Wagons, etc., which had expanded relative to 1923 with a 1929 return of 54,210 workpeople and had contracted to 5520 below its 1923 level with a return for 1933 of 45,180 workpeople.

(*c*) The employment figures of the different sections follow in the main the same trends, but their movement is more irregular.

General Engineering which shed 80,200 workpeople between 1923 and 1929 provided employment, however, for only 1563 less in the latter year than in the former, estimated employment declining only from 530,225 workpeople to 528,662 workpeople. Between 1929 and 1933, however, the movement of contraction was accelerated, with especial violence in employment, for a further reduction in insured workpeople from 586,750 to 528,190 was accompanied by a steep reduction in employment from 528,662 to 383,730.

It is not difficult to gauge the movement of the percentage of unemployment from a reading of these divergent changes: a figure of 9·9 per cent unemployed in 1929 had been replaced by 1933 by the figure of 27·35 per cent.

In Electrical Engineering employment shows a gain at both dates relative to 1923. In 1929 an increase in the number of insured workpeople of 23,470 relative to 1923 was accompanied by an increase in employment of 24,036 workpeople. Comparison of 1933 with 1929 reveals, however, a further increase in the number of the insured associated with a contraction in the number employed. Whereas the number of the insured had increased from 84,430 in 1929 to 90,590 in 1933, the number estimated to be employed had fallen from 80,546 to 75,643. It is to be remembered, however, that this is still a net gain over the ten-year period considered, for the number employed in 1923 was only 56,510.

Marine Engineering displays a much less happy record: one of over-all contraction but more complicated in its pattern. The decline in the number insured between 1923 and 1929 gave a loss of 7090 workpeople. It was associated, however, with an increase in the number employed of 1176, an expansion from an estimated employment of 50,728 workpeople to 51,904, and a fall in the percentage of unemployment from 22·6 per cent to 11·2 per cent. Between 1929 and 1933 this small gain in employment was swept away. A further contraction in the number insured from 58,450 in 1929 to 46,220 in 1933 was accompanied by a contraction in the number employed from a figure of + 1176 workpeople relative to 1923 to one of − 28,219 relative to 1923. The unemployment percentage, which had dropped from 22·6 per cent in 1923 to 11·2 per cent in 1929 rose savagely to the height of 51·3 per cent.

In Constructional Engineering the expansion in the number of the insured of 5010 workpeople between 1923 and 1929 was accompanied by a rise in the number of the employed of 4193 (the unemployment percentage rose from 10·1 per cent to 11·2 per cent). This expansion in the number of the insured continued, though with slightly less force, from 1929 to 1933, showing a total gain relative to 1923 of 5970 workpeople. Between 1929

and 1933, however, employment contracted sharply: the percentage of unemployment rose from 11·2 per cent to 37·6 per cent, and a gain of 4193 workpeople on 1923 gave place to a decline, relative to 1923, of 2663 workpeople.

In the Motor Vehicles group employment increased at a faster rate than the number of the insured during the period 1923–29, but during the period 1929–33 the latter continued to grow while the former contracted. An increase in the number of the insured of 53,580 was accompanied in the first period by an increase in estimated employment of 54,764 workpeople, the percentage of unemployment falling from 9·7 per cent to 7·1 per cent. In the second period a further increase in the insured workpeople to make a total gain over the whole period 1923–33 of 69,890 workpeople was accompanied by a contraction in the number of the estimated employed from 227,986 (1929) to 215,657 (1933). Thus a total increase in the insured of 69,890 was accompanied by an increase in employment of only 42,435, and this change is indicated by a rise in the percentage of unemployment from 7·1 per cent in 1929 to 17·6 per cent in 1933.

Carriages and Carts did not occupy a very prominent place in the engineering hierarchy in 1923 and over the period their importance grew less. The number of insured workpeople contracted sharply (by 9220 persons) between 1923 and 1929, leaving them at the latter date with an insured total of 18,880 workpeople. Employment also contracted, but less sharply (by 7371 persons) and the percentage of unemployment fell from 13·3 per cent to 10·0 per cent. Between 1929 and 1933 the number of the insured continued to contract, though with less intensity, and at July, 1933, the trade was estimated to have attached to it 17,220 workpeople. This relatively slight fall, however, was accompanied by a steeper fall in the number estimated to be employed. The figure for 1929, 16,992 persons, shrank further to 13,690, and the percentage of unemployment rose from 10·0 per cent (1929) to 20·5 per cent (1933).

Railway Carriages, Wagons and Tramcars constitute a group which reveals again a complex change. Between 1923 and 1929 the number of the insured rose from 50,700 to 54,210 persons, but estimated employment rose only from 48,216 persons to

48,626, a rise of 410 persons against the gain of 3510 persons on the insured side. Between 1929 and 1933 the number of the insured contracted to 45,180 and employment experienced a very considerable reduction which brought the 1929 figure of 48,626 to the low level of 33,162 persons, a total decline in employment for the whole period of 15,054 persons and a decline of 15,464 persons from the level of employment of 1929. The unemployment percentage climbs steadily. A 1923 percentage of 4·9 per cent gave place to 10·3 per cent in 1929 and this in turn to a worse figure, 26·6 per cent, in 1933.

The trades in this part of the note have been set down in the order in which they appear in the publications of the Ministry of Labour and not in the order of their importance. Last, therefore, in order, but not in importance, is the group called Electric Cable, Apparatus and Lamps, etc. In some respects it presents a refreshing contrast from the last two which have been considered: in other respects it illustrates similar tendencies. The increase in the number of its insured between 1923 and 1929, one which took its roll from 72,120 to 93,970 persons, was accompanied by a greater increase in the number estimated to be employed. The latter rose from 64,764 persons to 88,990 persons, an increase of 24,226 against the increase of 21,850 in the insured. It more than absorbed its recruits and its unemployment percentage, falling from 10·2 per cent to 5·3 per cent, was roughly halved. Between 1929 and 1933 the number of the insured was increased by a further 31,600 persons, but the addition to employment rose only by 18,372 persons. Thus over the whole ten-year span the number of the insured was increased by 53,450 and that of the employed by 42,598 persons, and the unemployment percentages for the three years 1923, 1929 and 1933 were 10·2 per cent, 5·3 per cent, and 14·5 per cent respectively. The same remark is relevant here, however, as was appropriate when considering the position of Electrical Engineering. The highest of the unemployment percentages, that for 1933, leaves the industry with a greater number of persons employed than is reached by the whole of the insured workpeople of 1929. If this must be deemed a set-back it must also be seen in its true perspective and may then be likened to the line of a depression on

an incline which, though apparently trending downwards, may in reality be an uptrend relative to the level.

(*d*) The figures which have just been considered in relation with each of the different engineering sections may now be considered in the aggregate.

In 1923 these sections accounted, taken altogether, for a total of 1,159,430 insured workpeople. By 1929 this figure had increased to 1,170,340, an increase of 10,910 persons. Accompanying this the number of those estimated to be employed had increased from 968,912 to 1,068,783 workpeople, an increase of 99,871. Between 1929 and 1933 the number insured and the number of employed both fell, that of the insured to 1,143,890 workpeople and that of the employed to 869,974, a decline in the number of the insured relative to 1923 of 15,540 persons, and in the employed of 98,938 persons.

But while it is useful to consider the massed result of the changes—for it has been claimed that there is some degree of affinity and kinship between Engineering's different sections—it is important to be aware of the great differences which aggregation masks. Comment upon the questions the figures throw up is made later but it is perhaps permissible to make the point at this stage that the figures present in summary arithmetic the difficulties which are facing the older engineering industries, and which we recognize as an important element in the problems of "the depressed areas"; they make clear also the emergence of the newer engineering industries. These, too, have their problems. Though their development provides a welcome offset to the contraction of some of the others they present problems because their mode of production enables them to make more use of automatic and semi-automatic machinery, and therefore provides an opportunity not afforded by the older trades of employing more semi-skilled and more female labour. They do not necessarily spring up in the established centres of Engineering where the older trades, by contraction, have, in the post-war period, made a contribution to the local total of protracted and abnormally high unemployment. A point specially brought out in a recent volume on London industries is that whereas London was formerly, in Charles Booth's time for example, a place which

Engineering tended to shun, it has been latterly a place which it has tended to like: and its form has been precisely that which Industrial Development Boards in older centres have envied most.

The figures of the Ministry of Labour therefore indicate changes which are associated with a changing geographical pattern in Engineering,[1] and they are therefore also important because they are relevant data in any consideration of the question as to whether, as a means of meeting the difficulties of "the depressed areas" it would be best to locate new enterprise in such areas or withdraw redundant labour from them and place it elsewhere.

4. On the subject of production in Engineering information is now available which makes possible comparison between 1930 and 1924. This is contained in the Final Report on the Fourth (1930) Census of Production, Part II. All, however, that can be done here for various reasons is to present in summary form those parts of the relevant data which lend themselves to such treatment. The volume of production for the different sections and for the whole group is given in the table on page 294. The general report on production in Engineering, from which the table is taken, includes, however, the production of "Ships and Boats." Since this section has not been included in the engineering group as defined in this note the data relating to ships and boats have been eliminated and the totals altered accordingly.

The results obtained by this Board of Trade inquiry do not conflict with judgments which might have been tentatively shaped on the basis of the earlier analysis of the statistics of the Ministry of Labour. Electrical Machinery, Motor Vehicles and Cycles, and Aircraft, have all increased, the last two considerably, while Railway Carriages, etc., and Carriages and Carts, have declined, the first of these to a prominently low place. Mechanical Engineering, of the general type, roughly holds its own. Those

[1] This tendency is well illustrated by data presented on pages 206 and 207 of the Final Report on the 1930 Census of Production, Part II, where it is stated that "Greater London took the first place in 1930, showing an increase in employment of 22 per cent over the 1924 total; Warwickshire, Worcestershire and Staffordshire occupied the second place with an increase of 19 per cent over 1924; and 'the rest of England' the third place with an increase of 19 per cent."

Kind of Output	Total Production in Gt. Britain			1930 as a Percentage of 1924
	1930 As Returned: £' 000's	1924 As Returned: £' 000's	1924 At 1930 Av. Values: £' 000's	
Machinery (other than Electrical) .	157,528	152,647	152,430	103
Electrical Machinery, etc. .	83,810	67,498	63,000	133
Motor Vehicles and Cycles . .	118,785	93,243	78,184	152
Aircraft . .	9,712	5,398	3,380	287
Railway Carriages, etc. . . .	10,601	17,247	15,519	68
Carriages and Carts etc. . . .	2,372	3,981	2,520	94
Total . .	382,808	340,014	315,033	121

which have advanced represent the core of the new engineering trades, and they are sections in which with slight exception, particularly Aircraft—though here also opportunities for female workers appear to have increased—mass-production and the use of automatic machinery have made most headway and are most feasible.

These impressions are confirmed by the data which give net output per person employed.[1] Omitting again mention of Ships and Boats, the net output per person employed is seen to have risen for the group as a whole from £206 in 1924 to £215 in 1930. Mechanical Engineering, Railway Carriages, etc., and Carriages and Carts, rank below this general figure with £204, £188, and £166 per head respectively in 1930 and £192, £180, and £188 per head respectively in 1924. Electrical Engineering with £233 per head (1930) and £219 per head (1924), Motor and Cycle-making with £221 per head (1930) and £232 per head (1924) and Aircraft with £262 per head (1930) and £262 per head (1924) rank consistently higher. Perhaps the most surprising feature of these returns is the lower figure per head given for Motors and Cycles in 1930 when compared with 1924. The return, however, covers both the manufacturing section and the repairing section of the

[1] Final Report: 4th Census of Production, p. 197 (figures for the U.K.).

trade and in connection with the latter it is pointed out (page 348) that their figures also include "the maintenance depots of transport concerns some of which require a large staff to keep their vehicles in running order."

The tendencies revealed by these data find confirmation in indices of production compiled by other bodies, though comparison is not strictly possible. An index compiled by the Engineering and Allied Employers' National Federation and covering 417 firms within the Federation gives an engineering production of 122·3 for 1930 with 1924 as the base of 100. Reverting to the table of production printed in the official source quoted, this shows a closely similar movement to that revealed by the table when the figures for Ships and Boats had been taken out. We may therefore follow the index of the Federation with confidence. It shows clearly the development of the slump, with a production index of 96·1 per cent for 1931 and an index of 79·5 per cent for 1932.

In Marine Engineering a possibly close index of work done, though this is a matter which might profitably be examined, is to be found in the data of "indicated horse-power" of the marine machinery produced annually, and published in the relevant trade journals. A table of such data cast into the form of an index number with 1924 as the base is appended.

INDEX OF I.H.P.

1924 = 100

Date	United Kingdom	Tyne, Wear and Tees	Clyde
1913	241	224	247
1919	294	240	335
1920	154	168	138
1921	119	118	106
1922	74	75	78
1923	49	52	37
1924	100	100	100
1925	94	75	96
1926	94	79	96
1927	122	106	144
1928	173	175	150
1929	170	163	167
1930	170	158	134
1931	77	62	42
1932	61	39	37
1933	30	25	39

The indices of the heavily specialized centres follow closely, indeed in great measure they determine, the movement of the index for the kingdom.

General as well as local recovery from a mid post-war decline is revealed, though opinions which have been expressed make it doubtful whether the financial recovery was as complete as is implied by the index, but it seems valid to suggest that the industry was beginning to find a post-war equilibrium, which, at its best, was below the figure of 1913. This notion that the industry had indeed found a post-war level in the period 1928–29, is perhaps confirmed by the way in which the sharp contraction in the number of the insured attached to the industry between 1923 and 1929 was accompanied by a slight increase in the number employed. This view is further strengthened by noting also the position in 1928, for between 1928 and 1929 the number insured rose from 55,030 to 58,450, but the percentage of unemployment fell from 12·4 per cent to 11·2 per cent. The position from 1930 to the present time, however, is vastly different: tonnage in shipbuilding and I.H.P. in Marine Engineering have both shrunk and the world position is such that the regaining of the level of 1928–29 may well prove a difficult task.

Electrical Engineering, Electrical Apparatus, Motor Vehicles, and Aircraft are thus the only engineering categories in which production has shown any considerable expansion. They have not been, however, without difficulty, and diverse experience is indicated in the period 1930–33 when we compare the expanding output of motor-cars in the United Kingdom with the declining output of Electrical Engineering as measured by the B.E.A.M.A. index.

	1930	1931	1932	1933
Production of Motor-cars, U.K.: (Average 1925–29 = 100)	119	113	124	143·6
Electrical Engineering: B.E.A.M.A. Index . . . (Average 1925–29 = 100)	111	79	61	66

5. An attempt is made here to give a general picture of the import and export position in Engineering: its data are given in the composite table which follows (page 298).

These figures have not been corrected for changes in the value of money over the period, but, as a guide, it may be stated that the Board of Trade Index for 1931 and 1932 was not significantly different from that for 1913 and that the average index for the years 1928–30 inclusive was roughly 132 (1913 = 100). The picture they present does not admit easy interpretation and no close comparison between 1913 and the other years will be pressed. The general figures obviously mask those divergent tendencies which have been stressed before and of the facts in the situation which call most for mention the strong positions established by Electrical Machinery, Machine Tools, and Motor Cars, and the obvious influences of trade depression, resisted however by Machine Tools in a remarkable manner, are the most significant. During the period ending 1928–29, even if allowance is made for price changes, a gain has been made on 1913: and it is obvious that, accompanying the decline of exports in the period 1930 onwards there is, though with perhaps a somewhat irregular beat, a considerable decline in net imports. The seriousness of the position revealed by the exports of 1932 is perhaps diminished, though in a relative sense only, when it is found that contractions have also been experienced in the export returns for different classes of machinery in such countries as France and the United States, though against this must be placed the fact that the value of electrical machinery exported from Germany has not appreciably varied over the whole of the period 1928–32, and that the export of machine tools from that country has considerably increased.

In connection with foreign trade it is often useful to know what proportion of its total production an industry's exports normally represent. In view of the development of nationalist and restrictionist policies over the greater part of the world such knowledge is important as an aid in assessing the strength or weakness of a trade's position. An engineering trade which normally relies to a very considerable extent on export markets will at present tend to be more handicapped in making recovery

IMPORTS AND EXPORTS OF ENGINEERING PRODUCTS

MONTHLY AVERAGES

VALUES: £

	Total Machinery		Electrical Machinery		Machine Tools		Textile Machinery		Locomotives		Motor-cars. Private and Commercial	
	Net Imports	Exports	Net Imports	Exports	Net Imports	Exports	Net Imports	Exports	Net Imports	Exports	Net Imports	Exports
1913	496,739	2,800,206	103,869	189,119	28,511	84,400	29,428	690,154	249	231,821	[1]	[2]
1928	1,258,535	4,476,794	132,340	557,688	112,446	147,511	129,604	968,623	1,190	294,443	230 234	364,318
1929	1,460,233	4,529,235	147,984	528,962	156,567	179,418	126,316	970,325	757	272,929	179,628	428,525
1930	1,363,661	3,914,501	139,891	528,802	138,413	154,686	82,391	719,014	1,551	312,562	105,070	415,435
1931	1,177,924	2,750,970	126,658	363,153	129,984	186,455	85,196	440,059	2,209	124,739	28,283	286,368
1932	784,956	2,460,731	63,306	307,278	78,128	261,570	87,399	459,263	576	25,497	38,487	330,324

[1] Extracted from data printed in *Unemployment: Its Realities and Problems*, issued by the Engineering and Allied Employers' National Federation, 1933.
[2] Information not available.

than one which relies preponderantly on the home market. It is usually held that a safe working rule is to regard Engineering as a whole as exporting roughly one-quarter of its output. Data recently published by the Engineering and Allied Employers' National Federation provide an opportunity of testing this rule and also of noting any tendencies of change that may be at work in the post-war period. The data relate to firms which are members of the Federation, and an extract is presented in summary form below—

PROPORTION OF WORK ON HOME AND EXPORT ACCOUNT

	1927		1929		1932	
	Home	Export	Home	Export	Home	Export
Agricultural Engineering	45	55	47	53	60	40
Aircraft . . .	80	20	83	17	87	13
Electrical Engineering .	61	39	67	33	72	28
General Engineering—						
Heavy . . .	60	40	56	44	65	35
Light . . .	71	29	71	29	79	21
Locomotive Engineering	49	51	14	86	16	84
Machine Tools . .	65	35	67	33	46	54
Marine Engineering .	83	17	85	15	82	18
Motor-cars . . .	85	15	84	16	91	9
The Federation . .	72	28	72	28	78·5	21·5

The rule is thus broadly confirmed, but it is evident that it masks important divergencies between the different sections. It is also evident that with the depression there has been a tendency, marked in some instances, for the proportion falling to the home account to increase. Locomotive engineering is in a special position and its contrary movement may, so far as it bears against the present argument, be disregarded. The last two figures quoted against its name, 84 per cent and 86 per cent, under the export heading are much truer indicators of its normal position than the figure for 1927.

7. There are many questions which have not been touched upon, particularly that of methods of marketing, of which an informative survey was made in 1931.[1] It is necessary, however, to frame a summary.

[1] This is useful because of the way in which it shows how the question of price has increased in importance in the post-war rivalries for orders.

Judged as an aggregate the engineering industry appears to have made ground. Comparing 1923 with 1929 the Ministry of Labour's statistics show that both the volume of insured and of employed persons has increased. Production indices show that production has expanded, and, as a publication of the Employers' Federation has remarked, "on balance this country has, during the last four years, held its own against its chief foreign competitors so far as the export trade is concerned, the rate of decline in most cases being not so great in the case of the U.K. as it is in that of the other countries." But it has been made plain that within the engineering industry as a whole are very divergent sectional tendencies. It is these which provide the clue to engineering's main problems, particularly that of decline in old-established centres. The post-war period, however, contains abundant evidence that in all sections technical development has occurred: technically, in old and new centres alike, much has been accomplished. Marine Engineering firms have taken up the production of various types of heavy oil engine and have thus shared in the orders which have been placed for the fitting of engines into motor ships. This has been a gain, for the proportion of motor ships to the total tonnage of vessels launched has steadily increased. Against this, however, must be set their financial weakness, the added complexity in technical competition which these developments mean, and the present shrunken nature of international trade and therefore of shipping work. In General Engineering contraction in armament work and general machine work, has been offset in part by attempts to produce heavy-oil engine vehicles for use on railways and on the roads: outstanding examples of developments in the production of such vehicles are to be found in developments at such widely separate places as Fodens in Cheshire and Armstrong Whitworths on Tyneside. In Electrical Engineering the last few years have seen considerable activity on work for the national grid system. This was an addition of work to an industry already expanding and it has resulted in giving this section a sound financial basis. Such work is not indefinite: replacement work is evidently remote, and while work of a similar nature on foreign account may be expected, manufacturers have been experimenting with and developing

the production of power-using goods, such as wireless-sets, cleaners, and water-heaters, with a view to ensuring a maintenance of work. In the Motor Vehicles section, mass-production methods, illustrated clearly by Morris Motors of Cowley, have not ceased their quest for lower costs. Its continued expansion, in view of this, may perhaps be expected, though it is clear that the proportion of replacement-sales, as distinct from expansion-sales, will tend to increase. Its importance in the post-war period, apart from this, lies in the greater opportunity such methods afford for the use of semi-skilled and female labour, and in its concentration in the southerly parts of the United Kingdom.

Two main strands of the problem emerge therefore out of this consideration of British Engineering. The first comes from the older and contracting sections and is bred of trade difficulty and high unemployment partly long standing and partly cyclical in its character. The second comes from the newer and expanding sections and is derived from their increasing use of mass-production methods. The two converge and are focused in the discussions which have taken place between the Employers' Federation and various unions on the subject of wages, and, recently, the forty-hour week. For the unions the problem is summed up in persistent unemployment side by side with methods making for greater productivity which would seem to make their wish practicable. For the Federation the problem is summed up in keen trade competition with both foreign and home rivals and a level of "pre-charges" to which a shorter day would be an impracticable addition. So, at the moment, the issue rests, but it is perhaps evident from the analysis which has been made that no answer to the problem can be satisfactory which fails to take into consideration the divergent post-war history of Engineering's different branches.

8. Statutory Orders Affecting the Engineering Industry from 1932 Onwards. Omitting reference to action taken under the Abnormal Importations Act, 1931, which touched only a small fraction of Engineering, as defined in this account, and which came to an end with the Abnormal Importations (Customs Duties) Revocation Order in 1932 this note may most usefully

begin with the Additional Import Duties Orders of which the first came in April, 1932.

On 26th April, 1932, under the Additional Import Duties (No. 1) Order, 1932, duties additional to the basic duty of 10 per cent were imposed on various classes of engineering products. The following is the list of goods affected—

Product	Additional Duty	Total Duty
	%	%
Tubes, pipes, railway and tramway construction material of all kinds, springs and spring steel, wire, wire netting, wire nails, cable and rope (except insulated telephone and telegraph cables), screws, nails, tacks, studs, spikes, rivets and washers, bolts and nuts, anchors and grapnels, chains and ship's cable	10	20
All cutlery products (except medical and surgical instruments, or knives for use in machines)	10	20
Forks, spades, shovels, etc.	5	15
Electrical goods	10	20
Ploughs, planters, seeders, and other agricultural machinery	5	15
All other machinery and parts thereof (other than ball bearings, roller bearings, and machinery belting)	10	20
Ball bearings, roller bearings, and parts	23⅓	33⅓
Cycles (other than motor-cycles) and parts and accessories including tyres and tubes.	23⅓	33⅓
Arms and ammunition	15	25

Some changes in the weight of duties have since taken place, and further classification of the goods has been made, these being covered by Orders 6 and 7 (1932), Orders 12, 14 and 16 (1933), and Order 13 (1934). Certain classes of engineering products were covered by the Import Duties (Drawback) Orders No. 6 and No. 15 in 1933, and No. 3 in 1934. They were also covered in some detail in the Import Duties (Imperial Preference) No. 2 Regulations in 1933. The result has been to render more detailed and rather more complex a position broadly defined by the Additional Import Duties (No. 1) Order of 1932.

On 7th July, 1932, the Import Duties Advisory Committee stated that under Section 10 of the Finance Act of 1932 they were open to receive applications for exemption of specific[1] purchases of certain classes of machinery, provided that the application was being made by, or on behalf of, a firm purchasing machinery for their own use, or by an importer having the sole agency for the sale of a particular machine in this country. This announcement followed the publication of certain recommendations which the committee had previously made (Cmd. 4066) stating the conditions on which goods might be admitted without the duty being imposed.[2] The following is the list of machinery products in respect of which exemption could be applied for—

1. Machine tools including metal-working and wood-working machinery.
2. Agricultural machinery including dairy machinery.
3. Sugar-making machinery.
4. Textile machinery.
5. Glass-making and working machinery.
6. Chemical and soap-making machinery.
7. Weighing, packing, and filling machinery.
8. Paper-making machinery.
9. Printing, bookbinding, and labelling machinery.
10. Machinery for corrugating, cutting, creasing and folding paper and cardboard and for the manufacture of cardboard boxes, tubes and cartons and of paper bags.
11. Metal and leather printing and embossing machinery.
12. Electric furnaces.
13. Cable-making machinery.

[1] It was stressed that exemption would be for particular consignments only, in respect of which specific application had been made, and that the announcement was not to be interpreted as freeing generally the products mentioned.

[2] Briefly these conditions were that import should be desirable, that the machinery in question was not procurable in this country, and for the reason that for some types of machinery one factory can meet a very large demand and therefore it would be uneconomic to encourage the setting up of such a factory unit here.

14. Tobacco, cigar and cigarette-making machinery.
15. Food preparation machinery.
16. Brush-making machinery.
17. Fur skin dressing, preparing and finishing machinery.

On 1st December, 1932, two further classes were added, namely—

18. Pumping machinery.
19. Dredgers.

In August, 1933, however, a further list was issued: up to the time of writing no list introducing further changes had been issued, and the August list may be permitted to stand, at the present time. Some categories have disappeared, e.g. sugar-making machinery, and other categories have come in, e.g. battery-making machinery, as may be seen.

1. Machine tools, metal working, and finishing and wood-working machinery.
2. Agricultural and Dairy machinery.
3. Battery-making machinery.
4. Machinery for making, finishing and measuring textiles and textile goods.
5. Glass-making and working machinery and electric lamp and valve-making machinery.
6. Chemical and soap-making and mixing machinery.
7. Packaging and labelling machinery.
8. Paper and board-making and finishing machinery and machines for the manufacture of articles of paper or board.
9. Printers embossing, and bookbinding machinery.
10. Foundry machinery.
11. Wire-making and wire-winding machinery.
12. Testing machinery.
13. Presses.
14. Tobacco, cigar and cigarette-making machinery.
15. Machinery for sterilizing and food preparation.
16. Brush-making machinery.

17. Fur skin dressing, preparing and finishing machinery.
18. Match-making machinery.
19. Deep oil well machinery.

In addition to these decrees covering specific purchases in respect of which application for exemption could be made it was also decreed in the Additional Import Duties (No. 5) Order, 1933, that "goods which when imported constitute or form part of a ship, boat, or vessel, or of the machinery or equipment of . . . shall be excepted from every class or description of goods on which an additional duty is chargeable." The purpose of this was consolidated further by the Import Duties (Exemptions) (No. 4) Order of 1933 which stated that goods described as in the above order on a boat imported to be broken up should be free of duty under the Act, the importer to declare that the purpose of the importation was solely for breaking-up purposes.

Apart from certain changes in duty or classification the relevant Orders for which have alone been given, and so far as light is thrown on the position by what is published in the *Board of Trade Journal*, this would seem to be as complete an account of changes affecting the engineering industry as a result of the development of action through Orders in Council as is necessary.

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NOTES

1. Comparison is made in these tables with 1923: this is the earliest date with which comparison may be made, and then is subject to the further qualification given in (2) below: it was therefore held reasonable to push back to the furthest possible point. For 1923, however, the unemployment percentage relates to July only; for other years it is the average of January and July in each year. This in some sense vitiates comparison, for it does not truly compare like with like. The difference which is made by taking the arithmetic average of the two (January and July) has the result of causing the percentage figure of unemployment to be slightly higher than if the July figure alone were used. The difference is greater, but in the same direction, for the year 1933 than for 1929. The underlying forces and the direction in which they are shaping industries emerge clearly enough, however, on the basis which has been used and their run may be accepted as giving a reasonably true picture of change. It might perhaps be pointed out that an analysis in which quarterly figures had been averaged would result in slightly different arithmetical answers from those resulting here: but again, the main tendencies would be expected to emerge clearly.

2. Comparison over the period 1923–33 is vitiated also by the change in the age composition of the figures from 1928 on, but this is a caution with which users of Ministry of Labour publications are familiar. Strict arithmetical accuracy is again lost in making such long-run comparisons, but what is aimed at is rather the discovery of tendencies.

APPENDIX A

		No. Insured	+ or − Relative to 1923	% Unemployed	No. Employed	+ or − Relative to 1923
General Engineering	1923	666,950	—	20·5	530,225	—
	1929	586,750	− 80,200	9·9	528,662	− 1,563
	1933	528,190	− 138,760	27·35	383,730	− 146,495
Electrical Engineering	1923	60,960	—	7·3	56,510	—
	1929	84,430	+ 23,470	4·6	80,546	+ 24,036
	1933	90,590	+ 29,630	16·5	75,643	+ 19,133
Marine Engineering	1923	65,540	—	22·6	50,728	—
	1929	58,450	− 7,090	11·2	51,904	+ 1,176
	1933	46,220	− 19,320	51·3	22,509	− 28,219
Constructional Engineering	1923	23,230	—	10·1	20,884	—
	1929	28,240	+ 5,010	11·2	25,077	+ 4,193
	1933	29,200	+ 5,970	37·6	18,221	− 2,663
Motor Vehicles, Cycles, and Aircraft	1923	191,830	—	9·7	173,222	—
	1929	245,410	+ 53,580	7·1	227,986	+ 54,764
	1933	261,720	+ 69,890	17·6	215,657	+ 42,435
Carriages and Carts	1923	28,100	—	13·3	24,363	—
	1929	18,880	− 9,220	10·0	16,992	− 7,371
	1933	17,220	− 10,880	20·5	13,690	− 10,673
Railway Carriages, Wagons and Tram Cars	1923	50,700	—	4·9	48,216	—
	1929	54,210	+ 3,510	10·3	48,626	+ 410
	1933	45,180	− 5,520	26·6	33,162	− 15,054
Electric Cables, Apparatus and Lamps	1923	72,120	—	10·2	64,764	—
	1929	93,970	+ 21,850	5·3	88,990	+ 24,226
	1933	125,570	+ 53,450	14·5	107,362	+ 42,598

APPENDIX B

The following table presents index numbers (1928 = 100) showing the differing experiences of the eight engineering groups which have been considered, and the divergent movements for each of the numbers insured and the numbers employed. Its main purpose is to provide a quick summary of tendencies in a period which permits a comparison of one year with another without those qualifications necesssary when a point of origin earlier than 1928 is chosen and which shows clearly the decline from 1930 onwards.

Year	General Engineering		Electrical Engineering		Marine Engineering		Constructional Engineering		Motor Vehicles, Cycles, Etc		Carriages, Carts		Railway Carriages, Wagons, Etc.		Electric Cable, Etc.	
	Insured	Empld.	Insured	Empld.	Insured	Empld	Insured	Empld.	Insured	Empld.	Insured	Empld	Insured	Empld.	Insured	Empld.
1928	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
1929	101	101	106	106	106	108	104	102	105	106	97	96	96	96	109	109
1930	102	97	113	111	109	108	103	97	105	101	98	95	96	95	119	117
1931	99	80	116	105	100	68	108	89	107	94	94	83	91	79	126	115
1932	95	74	118	103	92	49	107	79	107	91	93	80	87	72	136	125
1933	91	73	114	100	84	47	107	74	111	100	88	78	80	65	146	131

It should perhaps be stated that in calculating the index numbers for this table an average percentage derived from the unemployment percentages for January and July in each year which ran to two places of decimals was not condensed to one decimal place. In Appendix A, except for one figure, which will be obvious, the more summary form was used throughout.

THE NON-FERROUS METALS INDUSTRIES

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THE NON-FERROUS METALS INDUSTRIES

THE Non-Ferrous Metal Trades of the United Kingdom, excluding those dealing with the precious metals and the watch and clock trade, showed a gross output of £58,000,000, a net output of £17,500,000, and employed some 80,000 workers in 1930 according to the Census of Production of that year. Domestic ore outputs in no case provide an important proportion of home consumption and except in tin, aluminium and spelters there has been an increasing tendency to import metals at the crude or refined stage rather than in the ore. But although the United Kingdom does not hold a dominating position even as a consumer, yet the London Metal Exchange has exercised a major influence in determining price levels. Consequently events in this country may have repercussions which are wholly disproportionate to domestic production and consumption. In consequence it will be necessary to deal at some length with events in the non-ferrous metal world as a whole if the history of this section of it is to be intelligible.

Of the metals here dealt with, all, with the possible exception of nickel, suffered from over-investment between 1925 and 1929, technical improvements and/or cartel policies amplifying the degree of disequilibrium which monetary factors alone might have brought about. In every case the industry has experienced a cartel for whole or part of the past decade.

In the case of three metals a duty of 10 per cent *ad valorem* has been imposed in Britain on imports from foreign countries. The purpose of the aluminium duty is to stimulate the domestic and Canadian industries, while with lead and spelter the object has been to reserve the British market to Empire producers. Under the Ottawa agreements a continuance of the duty was promised so long as the Empire producers continued to supply the requirements of British consumers at world price. This was later defined as the price on the London Metal Exchange exclusive of duty. The prices of the two metals rose in common with other

prices at the time of American currency depreciation, but despite increasing consumption and decreasing stocks they fell again during 1934. This was attributable to the British tariff. Owing to the tariff British consumers ceased to buy through the Exchange where they are liable to have foreign metal in bonded warehouse delivered against their purchases. In such a case the buyer has to pay the duty on taking out of bond in addition to paying the same price at which he could buy duty free metal. Foreign producers have, however, continued to send metal to London for sale. Over 55,000 tons of lead have entered since March, 1932, and half of that amount during 1934, and the bulk of this metal is still in bonded warehouse.[1] The business done on the exchange is therefore of the hedging type which does not result in the withdrawal of metal into consumption and price movements reflect changes in the willingness of the market to carry this stock of foreign metal. While the stock is increasing the trend of price is downward. Copper was originally included in the Ottawa agreement but it was not found possible to give the guarantees required.

The inclusion of even the essential minimum of statistical material would expand this section beyond its allotted space, but it is believed that most of the available data are to be found in the sources given in the bibliography.

ALUMINIUM. The United Kingdom has been singularly slow to use aluminium. The low level of production is understandable on the ground of paucity of bauxite deposits, but the low level of consumption is more difficult to explain. The 1924 Census of Production shows two firms engaged in the industry and though the number had risen to 15 in 1930 output had only doubled despite Government assistance, first by guarantees under the Trade Facilities Act, and in 1932 by a 10 per cent tariff. The North British Aluminium Co. floated in 1924 has a Government guarantee for £2,500,000 of 4½ per cent debentures. Its Inverness-shire establishment began production in 1929, using bauxite brought by sea from North Ireland, but at the time of writing the major hydroelectric scheme is unfinished.

In 1925 a cartel consisting of British, French and Swiss

[1] I.e. at the time of writing, Feb., 1935.

interests was established. Although it controls only 47 per cent of world output it has succeeded in enforcing its policy in Europe. The United States and Canada, who are the largest producers, accounting for 40–50 per cent of world output are nevertheless net importers. The cartel agreement does not fix prices though there is an understanding to reduce price slowly to expand consumption. (In 1924 price averaged £122; in 1929 it was £95). Output quotas are fixed for each country participating and prices are not identical in the different markets. There must be "understandings" between producers about prices or quotations could hardly remain fixed for periods as long as two years. Differential prices are quoted for home and export trade, the market price for ingots in this country having been £100 per ton delivered for some two years while through most of 1934 a price for export of £80 gold per metric ton delivered, was quoted.

COPPER. The decline of the English copper smelting industry which began with the technical discoveries of the end of last century was completed by war conditions. Copper is now imported at the blister or refined stages. The price fixing power of the London market survived not only these changes but a concerted attack upon it in recent years.

Copper Exporters Incorporated, an American controlled cartel, was founded in 1926 to raise and stabilize the price of copper. To do this it was necessary to break the influence of the London market, and the extension to the export market of the practice of selling only to consumers was designed to accomplish this end by starving the market of copper. Open control of production in the U.S.A. was ruled out by the anti-trust acts, but in any case, it appears to have been considered unnecessary on the ground that rising costs in America and the physical limits of the rate of development of low cost African production together would prevent any important increase in world output. Price was raised from 12½ cents per pound to 24 cents in March, 1929, and held at 18 cents for exactly a year, when it collapsed. Meanwhile output increased beyond expectations, and the figure for 1929 was 100 per cent above the average for 1909–13. After a first abortive effort 90 per cent of the world's copper producers agreed to restrict to 26 per cent of capacity from

1st January, 1932, and three months later this was further reduced. But the imposition of a prohibitive tariff in the U.S.A. caused non-American producers to leave Copper Exporters Inc., and in the following December the producers' conference broke down over the claims of Rhodesian producers to count for quota purposes capacity which was not operating in 1929. Many large producers continued to restrict to 25 per cent but the output of British Empire producers, particularly Rhodesia, has expanded greatly since 1931. Since June, 1934, when the N.R.A. code fixed the internal price of copper at 9 cents, U.S.A. producers have been disposing of surplus stocks in Europe at prices £10–£12 a ton below the American parity. Consequently it is not improbable that a cartel of non-American producers may be formed, which will bargain with the American industry over the amount of copper to be exported from the U.S.A. and attempt to raise the price of the metal in Europe. Consumption in the United Kingdom declined from about 155,000 tons in 1929 to 120,000 in 1931 and 1932, but the following year saw a recovery to 150,000 tons, and a tentative estimate for 1934 is 200,000 tons. The principal consumer of copper in the United Kingdom is the electrical industry which accounts for approximately half of the total. The relative prosperity of this industry during the depression has thus had a stabilizing effect on copper consumption. The increase since 1933 is largely attributable to the expansion of house building.

There is some indication that a qualitative change in demand is taking place. For over thirty years the trend had been towards electrolytic and away from fire-refined copper. During the slump, stocks of electrolytic have mounted as high as two years' supply, but there has never been a surplus of fire-refined metal. In 1931 a large English consumer established a refinery with a capacity of 50,000 tons in order to secure supplies and the absence of adequate supplies of this type of copper was a major obstacle to a tariff under the Ottawa Agreement.

LEAD. Lead production has developed in a similar manner to Spelter (*q.v.*) sharing with it the advantages of the flotation process. Similarly as with spelter the Lead Producers Association, which includes most producers outside the United States,

attempted to curtail output in the spring of 1931. No binding agreement was made but a general reduction of output of 15 per cent took place. Later production was reduced, but when England imposed a tariff on non-Empire lead the general understanding as to sales was abandoned.

British mine output has increased steadily for the past ten years and most rapidly since 1931, though it now represents only some 14 per cent of apparent consumption. Most of the domestic mine output seems to be exported or used for purposes other than smelting into metal.

British consumption in 1919 at 274,000 tons was 123 per cent of 1924. In 1932 it had fallen to 106 per cent, but the next year saw a rise above the 1929 level, and in 1934 consumption was probably over 140 per cent of 1924. This increased use of lead is due to increased activity in the building trade, which accounts for some two-thirds of total consumption. The use of lead accumulator plates has also increased with the greater output of automobiles and greater activity in electrical supply and telephone installations has called for more lead for cable sheathing. At the end of 1934 lead stocks outside the U.S.A. were reduced to three months' supply, but the trend of price over the year was downward. As has been explained above this is due to the effects of the British tariff.

NICKEL. The nickel market is completely dominated by one large concern. Before 1928 there was a duopolistic situation with a British and an American concern involved. The American International Nickel had absorbed the Canadian companies and in 1929 merged with the English Mond Nickel firm. Two French companies mining in New Caledonia and the Falconbridge company which mines in Canada and smelts in Norway complete the field. The International Nickel Company of Canada sets price policy. After the 1920–21 slump price was raised again to the pre-war level of £172/5 early in 1925. Except for a slight reduction during 1927 and a temporary rise in the second half of 1929, price remained pegged at this level, until Britain went off gold. Since then, the sterling price has risen and, during the second half of 1934, it fluctuated between £225 and £230 per ton. Prices in "gold bloc" markets did not immediately fall to sterling

parity. The industry was extremely successful in finding new markets when the armaments demand collapsed after the war.

SPELTER. The story of recent developments in the spelter industry really begins with the opening up of the Broken Hill mines, New South Wales, in 1907. The Australian ore was smelted mainly in Germany and Belgium and consequently, the outbreak of war brought a shortage of available smelter capacity. Under the stimulus of high prices smelters were erected both in Australasia and North America to treat Broken Hill ore and the electrolytic process was developed. After the war a second technical change, the introduction of selective flotation for the separation of mixed ores, enabled use to be made of lower grade deposits. This and the Waelz process for obtaining Oxide enabled sources hitherto worthless to be exploited. The development of these technical improvements began in 1925–26, and provided the medium for over-investment in the industry. According to W. R. Ingalls the spelter producing capacity of the world in 1930 exceeded 1929 output by nearly 50 per cent. In Great Britain the excess was 33⅓ per cent. The estimates include obsolete and otherwise unworkable plant.

British production of spelter in 1920 was less than half the 1913 figure and the pre-war level was not reached, even in the peak year 1929. At that time home production represented approximately one-third of apparent home consumption, but in 1931–32, production fell drastically, while imports were above the pre-slump level, until the imposition of a tariff.

The industry has experienced several cartels. One, established at the end of 1928, had an unsuccessful career of one year. In July, 1931, an agreement was reached at Ostend between 90 per cent of the producers outside the United States. The absence of the Americans was unimportant, since they are largely high cost producers sheltered behind a prohibitive tariff. Output was restricted to 45 per cent of capacity and stocks which were 203,000 tons in July, 1931, fell to 125,000 two years later, while price in London rose in the same period from £12/9 to £17/16. In order to carry out the Ottawa agreement, the Empire members of the cartel were obliged to produce 80 or 90 per cent of their standard tonnages and paid fines on the excess. When it was

realized that the British tariff was responsible for price falling back to the pre-restriction level, certain foreign producers wished to reduce quotas and internal dissension broke up the cartel at the end of 1934.

British consumption was greatly reduced during the slump by the falling off in exports of galvanized iron sheets, and in 1932 it was only 65 per cent of 1924. The increase which has taken place since has been due to the greater demand for brass in housing and automobiles, and to greater activity in galvanizing trades, other than the sheet trade. An estimate for 1934 consumption is 97 per cent of 1924 as compared with 116 per cent for 1929.

TIN. The tin industry is probably the oldest industry, apart from agriculture, in these islands, but the output of the Cornish mines is a comparatively insignificant factor in the industry to-day. The present importance of Britain rests on the existence here of smelters which handle some 25 per cent of the world's output, on the role played by London as the major free market in the metal and on the fact that an important proportion of the world's mines are controlled from this country.

Cornish output seems to have reached a peak in 1913 at 5288 tons (metal) and rising costs due to exhaustion of the most accessible lodes prevented any considerable expansion during the tin boom of 1925–27. When tin prices are low at the bottom of a slump Cornwall almost ceases production.

THE SMELTING INDUSTRY. In contrast to the practice of the copper industry the tin smelters, with the exception of Penang, are not located on the tin fields. The ore, some 30 per cent of which is waste, is carried long distances to smelters in Singapore, England and Holland. This is usually attributed to considerations of supply of materials, fuel and skilled labour, and also to the necessity of operating on a scale large enough to maintain a regular output of marketable quantities of a brand. No major changes in smelting technique have occurred as with other metals to exercise a disturbing effect on location.

In recent years the integration of mining and smelting concerns has been an important factor, and the English smelters are assured of at least 50 per cent of the Bolivian output and a substantial proportion of that of Nigeria. These two countries

provide nearly 90 per cent of British imports of ore. After the war, the German smelting industry failed to regain its former dimensions and its share went to Britain, as did that of the American smelters established during the war. From 1923 onwards British smelter output fluctuates with mine output in the areas from which it draws supplies. In 1929 the principal English smelters were included in a merger with the Eastern Smelting Co., of Penang. The resulting concern, Consolidated Smelters, Ltd., is controlled by Patino Enterprises of Bolivia and the Anglo-Oriental Mining Corporation, which between them control more than a quarter of the world's output of ore.

Since 1929 the main influence on English smelter production has been restriction of tin output. In 1930 a measure of voluntary restriction resulted in a fall in output of about 10 per cent, but stocks continued to accumulate. In April, 1931, an agreement was signed by the governments of Malaya, Nigeria, Netherlands East Indies and Bolivia to enforce the recommendations of an International Tin Control Committee which was set up to determine export quotas. The agreement was retrospective as from 1st March, 1931. In October, 1933, a new agreement was made extending the scheme for three years from 1st January, 1934. Thus from some time in 1931, when smelter stocks of ore were depleted, output has depended solely on the restriction quotas. In view of the interest taken in the tin scheme as an experiment in monopolistic control, it may be worth while to conclude this account with a diary of the scheme.

DIARY OF TIN CONTROL SCHEME

April,	1931.	Agreement signed by contracting governments. Visible stock 54,600 tons. Average spot price for month £113. Initial cut in output 22%.
May,	1931.	Record low price since 1902, £100 6s. 3d. standard cash. Quota 60%.
Aug. 12,	1931.	International pool formed to hold stocks under control of restriction committee.
Sept. 1,	1931.	Siam joined restriction scheme.
Jan. 1,	1932.	Pool holding 21,000 tons of "Visible Supply."
April 1,	1932.	Visible Supply maximum, 60,500 tons.
June 1,	1932.	Quota cut to 50%.
July 1,	1932.	Byrne Scheme. Quota 33⅓%. Export holiday arranged for July and August.

June 30. 1933. End of Byrne Scheme. Cash price £221¾. Pool free to begin to liquidate. Quota still 33⅓%.
Jan. 1, 1934, New Agreement for Three Years. Quota 40% plus special 4%. Pool stocks liquidated, greatly assisted by U.S. buying in inflation scare.
May 1, 1934. Quota 50%.
July, 1934. Fr. Indo-China, Belgian Congo, Ruanda Urundi, Portugal and Cornwall join restriction scheme. Quotas granted greater than 1933 outputs of these countries. Buffer pool agreement announced.
Oct. 1, 1934. Quota 40%. Price of tin appears pegged between £225 and £235.

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THE BUILDING INDUSTRY SINCE THE WAR

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THE BUILDING INDUSTRY SINCE THE WAR

LEGISLATIVE AND POLITICAL CONTROL. It must in the first place be pointed out that the building industry throughout the post-war period has been more subject to legislative and administrative control and interference than any other major industry. It has been continually subject to a local legislative and sub-legislative framework of regulation imposed through local Building Acts and local Building By-laws. It has been subject to changes in housing legislation and policy which have had important effects on the industry. The economy circulars issued by the Government were directed particularly against building and construction and the related industry of civil engineering and public works contracting still suffers from their effects.

Legislative and political considerations thus bulk largely in the history of the building industry in the period under review.

ECONOMIC INDICES. For the tracing of the economic forces at work, the building industry is particularly ill served with statistical information. The only series available throughout the post-war period which is sound is that of the number of houses with a rateable value not exceeding £78 (or £105 in the Metropolitan area) built in England and Wales, which is available in six monthly totals from 1st October, 1922.

The unemployment figures, which are available since 1923, are open to criticism on the ground of administrative changes, and generally on the ground of the mixture of an industrial and an occupational classification.

The statistics of the estimated cost of buildings for which plans are approved by Local Authorities are available monthly since 1924 for only 146 Urban Authorities whose names are not published; the County and City of London are excluded; it is not known to what extent they are a representative sample; and the basis of the estimation of cost is not clear.

The only other source of information is the Census of Production

which was taken in 1924 and 1930. In both cases there is insufficient detail in the sections on building, and the choice of sub-totals is particularly unfortunate.[1] In the later Census the exclusion of small firms particularly affected the building industry, where they are numerous and important.

Housing Legislation

1919 Act. During the immediate post-war period the problem of housing was pressing. During the war the building of houses had been at a standstill, and in 1915 rents had been restricted. After the war demobilization caused great pressure on the already insufficient accommodation, materials were scarce, the personnel of the building industry depleted, prices and interest rates were high and rising, and standards of comfort had risen.

In face of this situation the first post-war housing Act in 1919 established the principle of subsidized housing. The Act reaffirmed the duty established by pre-war legislation of Local Authorities to build working class houses in their areas, and provided that any financial burden exceeding the proceeds of a penny rate should be borne by the Exchequer.

Building under the Act increased rapidly and reached a well-defined peak in the period March, 1921 to March, 1923. In all nearly 214,000 houses were provided under the Act, 205,000 of them before September, 1923. In the same period nearly 54,000 houses were provided by private enterprise.

1923 Act. In 1923 another Housing Act was passed which altered the basis of State assistance. The Exchequer liability was limited to a definite annual sum for twenty years for each house of suitable size and type erected. This sum was fixed at £6, but in 1926 a review of building costs took place, and it was reduced to £4 for each house erected after 30th September, 1927. In 1928 a further review took place, and assistance under the Act was discontinued after 30th September, 1929.

Over 438,000 houses were built under the Act, most of them when the higher rates of subsidy were in operation and the great majority by private enterprise.

[1] It will be recalled that from neither Census can the total value of housing, for example, be deduced. See *Building Industries Survey*.

1924 Act. In 1924 a further Housing Act (the Wheatley Act) was passed, providing more generous subsidies. A subsidy of £9 per annum (£12 10s. in agricultural parishes) from the Exchequer, and of £4 10s. from the rates was provided for forty years towards the cost of each house erected. After September, 1927, the subsidies were reduced to £7 10s. per annum (£11 in agricultural parishes) and £3 15s. respectively.

More than 508,000 houses were built under the Act, the great majority by private enterprise. After the first eighteen months building under the Act proceeded at a steady rate until it ceased on the 30th June, 1934.

1930 Act. The Housing Act, 1930, dealt with slum clearance. The percentage basis of Exchequer assistance established by the Act of 1923 was replaced by assistance on a similar basis to that for the provision of houses without slum clearance. The fixed grants were based on the number of persons displaced from slum areas or individual unfit houses and rehoused in new accommodation. The amount to be payable by the Exchequer was £2 5s. per person displaced (£2 10s. in agricultural parishes) per annum for forty years. Where the Minister of Health is satisfied that it is necessary to provide rehousing accommodation in tenement buildings of more than three storeys on the cleared site or on other sites exceeding £3000 an acre in value, the Exchequer subsidy is £3 10s. per person displaced per annum for forty years. In addition, a rate subsidy of £3 15s. per annum for forty years was provided.

By the 30th September, 1934, some 27,000 houses had been provided under the Act, overwhelmingly by Local Authorities.

1933 Act. In 1933 the previous subsidies for house building were repealed by the Housing Act of that year, the subsidy for slum clearance under the 1930 Act remaining. Local Authorities were given time to complete housing schemes which had reached an advanced stage, and the building of houses other than for slum clearance, under subsidy, actually ceased on the 30th June, 1934.

The Act also laid down machinery for a working arrangement with the building societies. The societies were to increase their loans on mortgage from 70 per cent to 90 per cent of the value of the houses, one-third of the extra advance being guaranteed by

the Local Authorities, and one-third by the Exchequer. The societies also agreed to lend under the Act for a period of forty years at 1 per cent below their normal rates. In the first year of its operation guarantees were given under the Act in respect of 1631 houses.

The Period 1924–1929

During the first part of the period the number of houses built increased steadily from 49,000 in the six months ended the 31st March, 1924, to 162,000 in the six months ended the 30th September, 1927. This was due chiefly to the simultaneous operation of the Housing Acts of 1923 and 1924, and the sudden spurt in building which occurred in the period March, 1926, to September, 1927, was due to the acceleration of schemes to qualify for the higher rate of subsidy before the reduction at the latter date. Non-assisted house building was steady with a slight tendency to decline.

The course of industrial and commercial building[1] as indicated by the building plan figures, was different. There was a downward tendency in 1924 and 1925, and a sharp recovery in the first quarter of 1926. The strikes of that year, however, brought the subsequent quarters down to low levels once more. In 1927 there was a sharp recovery, which led to a steady advance throughout 1928 and 1929.

Housing, after the peak of 1927, showed a sharp decline to only 76,750 houses in the six months ended the 31st March, 1928. It recovered slightly in the next six months and then again relapsed, but in the six months ended the 30th September, 1929, there was another sharp rise to 123,575. These movements were due almost entirely to fluctuations in the number of houses built with State assistance.

1929–1932

Industrial and commercial building reached its peak in 1929. From the first quarter of 1930 a continuous decline took place until the third quarter of 1931. In the fourth quarter

[1] I.e. the groups described in the building plan statistics as "Factories and workshops," and "Shops, offices, warehouses and other business premises."

of that year there was a recovery, but the first quarter of 1932 was below the third quarter of 1930, and was the lowest point in the post-war period.

Housing also showed a sharp decline after 1929, only 78,485 houses being built in the six months ended the 31st March, 1930. A steady increase followed to a figure of 100,593 for the six months ended the 31st March, 1931. In the next six months there was a relapse to 94,351 followed by a rise to 106,461. Assisted and non-assisted housing both showed similar fluctuations, which followed the rate of interest, as did industrial and commercial building to some extent.

1932–1934

From the relative peak of the six months ended the 31st March, 1932, the number of houses built declined in the next six months to 95,515, but from that point a steady advance followed which brought the figure up to 156,463 for the six months ended the 30th September, 1934, nearly equalling the record total of the six months ended the 30th September, 1927.

The movement of unassisted building was similar, the number of houses built increasing from 63,146 in the half-year ended the 30th September, 1932, to the record of 136,009 in the six months ended the 30th September, 1934. The number of houses built in the latter period by private enterprise without State assistance was also a record at 134,153. Housing with State assistance declined throughout 1932–4, except for a slight acceleration to complete schemes before the end of the subsidy.

The course of industrial and commercial building during this period again differs from that of housing. The fall in the rate of interest, which was an immediate and direct stimulus to house building was not so immediate in its effect on this class of building.

There was an increase throughout 1932, but successive declines occurred in the first three quarters of 1933. The low rate of interest then appears to take effect, and this class of building increases steadily until the third quarter of 1934 if seasonal influences are taken into account. The total for the third quarter of 1934 is 3·8 per cent above the quarterly average for 1929.

ACTS OF PARLIAMENT
(EXCLUDING LOCAL ACTS)

1919.
Housing, Town Planning, etc., Act (9 & 10 Geo. V, c. 35).
Housing, Town Planning, etc., (Scotland) Act (9 & 10 Geo. V, c. 60).
Housing, (Additional Powers) Act.

1920.
Housing, (Scotland) Act (10 & 11 Geo. V, c. 71).

1921.
Housing Act (11 & 12 Geo. V, c. 19).
Housing (Scotland) Act (11 & 12 Geo. V, c. 33).

1922.
Public Works Loans Act (12 & 13 Geo. V, c. 33).

1923
Housing Act (13 & 14 Geo. V, c. 24).

1924.
Housing (Financial Provisions) Act (14 & 15 Geo. V, c. 35).

1925.
Housing Act (15 & 16 Geo. V, c. 14).
Housing (Scotland) Act (15 & 16, Geo. V, c. 15).

1926.
Housing (Rural Workers) Act (16 & 17 Geo. V, c. 56).

1930.
Housing (Revision of Contributions) Act (20 & 21 Geo. V, c. 6).
Housing Act (20 & 21 Geo. V, c. 39).
Housing (Scotland) Act (20 & 21 Geo. V, c. 40).

1931.
Housing (Rural Workers) Amendment Act (21 & 22 Geo. V, c. 22).
Housing (Rural Authorities) Act (21 & 22 Geo. V, c. 39).

1933.
Housing (Financial Provisions) Act (23 & 24 Geo. V, c. 15).
Housing (Financial Provisions) (Scotland) Act (23 & 24 Geo. V, c. 16).

STATUTORY RULES AND ORDERS
(EXCLUDING LOCAL ORDERS, ETC.)

1919.
Aug. 29th. Housing Acts (Compulsory Purchase) Regulations.
Oct. 6th. County Councils (Assisted Schemes for the Housing of Employees) Regulations.

1919 (*contd.*).

Oct. 6th. Public Utility Societies (Financial Assistance) Regulations.
Oct. 10th. Housing Acts (Appeal Procedure) Rules.
Oct. 10th. Housing Acts (Forms of Orders & Notices) Order.
Oct. 10th. Housing Acts (Compulsory Purchase) (Scotland) Order.
Oct. 13th. Ministry of Health (Temporary Relaxation of Building By-laws Regulations)
Oct. 23rd. Housing Acts (Compulsory Purchase) Amendment Regulations.
Oct. 31st. County Councils & District Boards of Control (Assisted Schemes for the Housing of Employees) Regulations (Scotland).
Oct. 31st. Public Utility Societies (Financial Assistance) Regulations (Scotland).
Oct. 31st. Housing Trusts (Financial Assistance) Regulations (Scotland).
Dec. 19th. Local Authorities (Assisted Housing Schemes) Regulations (Scotland).
Dec. 31st. Local Authorities (Assisted Housing Schemes) Regulations.

1920.

Jan. 22nd. Housing (Regulation of Building) Order.
Jan. 22nd. Regulation of Building (Appeal Procedure) Rules.
Jan. 28th. Public Utility Societies (Sale of Houses) Regulations.
Jan. 30th. Housing Trusts (Financial Assistance) Regulations.
Feb. 6th. Housing Acts (Compulsory Purchase) Amendment Regulations.
Feb. 20th. Housing (Financial Assistance to Builders) Scheme (Scotland).
Feb. 20th. County Councils & District Boards of Control (Assisted Schemes for Housing of Employees) Regulations (Scotland).
Feb. 20th. Public Utility Societies (Financial Assistance) Regulations (Scotland).
Feb. 20th. Housing Trusts (Financial Assistance) Regulations (Scotland).
Feb. 25th. Housing (Local Bonds) Regulations.
Mar. 5th. County Councils (Assisted Schemes for Housing of Employees).
Mar. 11th. Housing (Local Bonds) Regulations (Scotland).
Mar. 19th. County Court Rules.
Mar. 31st. Housing Accounts (Local Authorities) Order.
Apr. 12th. Prohibition of Demolition (Appeal Procedure) Rules.
Apr. 23rd. Housing (Regulation of Building) Order (Scotland).
Apr. 23rd. Regulation of Building (Appeal Procedure) Rules (Scotland).
May 4th. Housing Accounts (Societies & Trusts) Order.
Aug. 21st. Housing (Loans by County Councils) Order.

1920 (*contd.*).

Sep. 3rd. Public Utility Societies (Sale of Houses) Regulations (Scotland).
Nov. 12th. Ministry of Health (Temporary Relaxation of Building (By-laws) Regulations.

1921.

Feb. 9th. Compulsory Hiring of Houses Regulations (Scotland).
Feb. 18th. Housing (Financial Assistance to Crofters) Scheme (Scotland).
Mar. 12th. Local Authorities (Assisted Housing Schemes) Amendment Regulations.
May 6th. Assisted Housing Schemes Amendment Regulations (Scotland).
May 18th. Compulsory Hiring of Houses (Scotland) (Assessment of Compensation) Fees Rules.
July 21st. Housing (Societies & Trusts) Amendment Regulations.
Aug. 4th. Local Authorities (Assisted Housing Schemes) Amendment Regulations (Scotland).
Aug. 26th. Ministry of Health (Rates of Interest) Order.
Dec. 17th. Local Authorities (Assisted Housing Schemes) Amendment (No. 2) Regulations.

1922.

Feb. 18th. Local Authorities (Assisted Housing Schemes) Amendment Regulations (Scotland).
Mar. 10th. Housing (Financial Assistance to Crofters) Amendment Scheme (Scotland).
May 25th. Public Utility Societies (Financial Assistance) Regulations.
Aug. 1st. London County Council Assisted Housing Scheme (Losses by Metropolitan Borough Councils) Regulations.
June 30th. Public Utility Societies (Financial Assistance) Regulations (Scotland).
Aug. 14th. Ministry of Health (Rate of Interest) Amendment Order.
Aug. 30th. Public Utility Societies Amendment Regulations.
Sep. 11th. Public Utility Societies Amendment Regulations (Scotland).
Sep. 16th. Ministry of Health (Temporary Relaxation of Building By-laws) Regulations.
Oct. 17th. Small Dwellings Acquisition (Rate of Interest) (Scotland) Order.
Dec. 5th. Ministry of Health (Rates of Interest) Amendment Order (No. 2).
Dec. 12th. Housing Acts (Form of Orders & Notices) Order.

1924.

Jan. 2nd. Housing Trusts (Financial Assistance) Amendment Regulations.

1924 (*contd.*).

Jan. 2nd. County Councils (Assisted Schemes for the Housing of Employees) Amendment Regulations.
Mar. 21st. County Councils & District Boards of Control (Assisted Schemes for the Housing of Employees) Amendment Regulations (Scotland).
Aug. 16th. Treasury Minute prescribing Rates of Interest.
Dec. 3rd. Housing (Determination of appropriate Normal Rents) Rules.
Dec. 3rd. Housing (Form of Undertaking) Rules.

1925.

Mar. 9th. Public Utility Societies Regulations.
June 29th. Housing (Scotland) Act (Compulsory Purchase) Order.
June 29th. Housing & Town Planning (Land near Royal Palaces and Parks) Regulations (Scotland).
June 30th. Housing (Form of Orders, Notices, etc.) Order (Scotland).
July 8th. Housing Act (Appeal Procedure) Rules.
July 9th. Housing Act (Form of Orders & Notices) Order.
July 25th. Housing (Loans by County Councils) Order.
Aug. 5th. Local Authorities (Assisted Housing Schemes) Amendment Regulations.
Sep. 1st. Housing Consolidated Regulations.
Sep. 9th. Local Authorities (Assisted Housing Schemes) Amendment Regulations (Scotland).
Dec. 4th. County Court Rules.
Dec. 31st. Treasury Minute Fixing the Rate of Interest on Local Loans.

1926.

Jan. 21st. Act of Sederunt for Regulating Appeals to the Sheriff under the Housing (Scotland) Act, 1925 (15 & 16 Geo. V, c. 15).
Jan. 28th. Ministry of Health (Rate of Interest) Amendment Order.
Apr. 21st. Housing (Local Bonds) Regulations (Scotland).
Dec. 11th. Housing Acts (Revision of Contributions) Order.

1927.

May 4th. Local Authorities (Assisted Housing Schemes) Amendment Regulations.
May 30th. Local Authorities (Assisted Housing Schemes) Amendment Regulations (Scotland).

1928.

Feb. 5th. Local Authorities (Assisted Housing Schemes) Amendment Regulations (Scotland).
May 8th. Local Authorities (Assisted Housing Schemes) Amendment Regulations.
May 31st. Housing (Inspection of District) Regulations (Scotland).
Dec. 19th. Housing Acts (Revision of Contributions) Order.

1929.

Apr. 22nd. Local Authorities (Assisted Housing Schemes) Amendment Regulations.
May 9th. Local Authorities (Assisted Housing Schemes) Amendment Regulations (Scotland).
Oct. 14th. Treasury Minute Fixing Rates of Interest on Local Loans.
Nov. 30th. Ministry of Health (Rate of Interest) Amendment Order.

1930.

Apr. 24th. Ministry of Health (Rate of Interest) Amendment Order.
Nov. 10th. Treasury Minute Fixing Rates of Interest on Local Loans.
Nov. 14th. Housing (Rate of Interest) Order.
Nov. 17th. Housing (Scotland) Acts (Forms of Orders & Notices) Regulations.
Dec. 15th. County Court Rules.
Dec. 23rd. Ministry of Health (Rate of Interest) Amendment Order (No. 2).

1931.

Jan. 12th. Housing (Rate of Interest on Expenses of Execution of Works) Order (Scotland).
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THE COTTON INDUSTRY AND TRADE

By G. W. DANIELS, M.A., M.COM.
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REPORT ON RECENT DEVELOPMENTS IN THE BRITISH COTTON INDUSTRY AND TRADE

I. Up to the Beginning of the World Crisis

For many years before 1929 the cotton industry had been in a state of depression; production and employment had not exceeded two-thirds of their pre-war volume throughout all the post-war years. The world crisis since 1929 has, therefore, increased the difficulties of an industry already depressed.

The Lancashire cotton industry had been built up before the war, based on the needs of consumers in all parts of the world. In 1912, 8000 million yards of cloth were produced; 1100 million yards were used in the United Kingdom, and 6900 million yards were exported. The prosperity of the industry depended on the continued existence of international trade in cotton manufactures and in the ability of the industry to retain in competition with other countries its proportion of that trade. Before the war two-thirds of the total imports of cotton goods into all countries of the world came from the United Kingdom. The United States competed in American markets, Japan in China, Holland in Dutch East Indies, European countries in the Middle East, but no other country depended so largely on international trade as the United Kingdom.

In 1924–5, when world demand had regained its pre-war volume, the United Kingdom produced only 5600 million yards, compared with 8000 million yards before the war, and our exports had fallen from 6900 to 4500 million yards. About 1000 million yards had been lost in British India, mainly to the developing mill industry, and of the total loss of 2400 million yards nearly two-thirds was due to the growth of national industries and one-third to foreign competition in neutral markets.

From 1924 to 1929 world consumption of cotton goods increased by over 20 per cent and international trade in cotton goods

increased by 5 per cent. During the same period, British production fell by 6 per cent and exports by 15 per cent. Not only did the Lancashire cotton industry fail to benefit from the increase in world consumption during 1924–9 but it was found impossible to maintain even the 1924 volume of exports.

It is against this background of declining production and reduced employment that the various attempts to meet the post-war crisis in the industry must be appreciated. Apparent differences in policy must be attributed to gradually changing views as to whether the depression was temporary or permanent and, if permanent, how great it was likely to be.

At first the depression in the industry was thought to be temporary. The purchasing power of foreign consumers was reduced and a revival of prosperity abroad was expected to lead to a revival of prosperity in the Lancashire industry. In the meantime, it was better that spinners and manufacturers should agree to restrict their production and prevent excessive accumulation of stocks by working organized short time. Essentially this was the general policy of the industry up to 1925–1926. Organized short time was worked in the American spinning section almost without interruption from 1921 to 1925.

This policy of waiting for the world markets for cotton goods to improve began to be openly doubted in 1925–1926. It was pointed out that there had already been a substantial recovery in world conditions, and the depressed state of British exports was giving a false impression as to what was really happening. World demand for cotton goods was now beginning to exceed what it was before the war, foreign competition had increased, and there was need for a radical change in outlook in the policy of the industry.

In April, 1925, the Federation of Master Cotton Spinners—the Employers' Association responsible for the working of organized short time—took the initiative in approaching other sections of the industry to see whether they could jointly agree on proposals for the improvement of conditions in the industry. It was out of these meetings between representatives of different sections of the trade that the Joint Committee of Cotton Trade Organizations was later to be officially constituted in 1928,

and the Cotton Trade Statistical Bureau formed to aid the Committee in its work by economic and statistical research.

In the meantime another and a more comprehensive effort was made to control the working of the spinning section by the formation of the Cotton Yarn Association. Mills spinning American yarn organized themselves in January, 1927, into a form of cartel which fixed minimum prices for standard counts and qualities of yarn and arranged transferable quotas of output for each firm. Unfortunately—whatever the merits of the Association may have been—the Association was not successful owing to price cutting by mills outside the membership of the Association, and in November, 1927, the Yarn Association ceased to function.

From now onwards the policy of the industry was rather to accept the prevailing level of yarn and cloth prices but to try to make these prices more profitable by concentrating production in the larger and in the more efficient firms and by encouraging direct co-operation between the different sections of the industry. It was felt that the concentration of production in the larger producing units would also help in making co-operation easier.

The failure of the Cotton Yarn Association was thus followed by a movement in favour of amalgamations in the spinning and the manufacturing sections. The Lancashire Cotton Corporation was formed in January, 1929 to acquire 10 million spindles in the American spinning section. The Combined Egyptian Spinners was registered in June, 1929, to amalgamate firms owning 3 million spindles in the fine spinning section, and in July, 1929, the Quilt Manufacturers Association was formed. It was intended that these should be followed later by other amalgamations and in particular, proposals for a further large group of mills in the American spinning section and for an amalgamation of plain cloth manufacturers were considered.

At the same time, based on inquiries into competition in China, East Africa, Argentina and other markets and including analyses of selling prices, marketing methods, costs and techniques of production, schemes were suggested for improving the competitive power of the industry. It was shown by these inquiries that differences in the prices of some British and competing cloths

were due almost wholly to the use of cheaper and short staple raw cotton by competing countries. In other cases, where competition was more severe, it was thought that the differences between the prices of British and foreign goods could be bridged by specially reduced finishing and shipping charges or alternatively by the creation of special "through-ticket" schemes. The idea behind the formation of such associations, of which the Eastern Textiles Association is perhaps the best known, was that a group of spinners, manufacturers, finishers and merchants should work together to produce and market certain standard cloths in direct competition to those sold by foreign competitors. Apart from the Eastern Textiles Association, no comprehensive attempt has been made to try out this idea in practice.

A Government Committee, which was appointed in August, 1929, and presented its report in July, 1930, endorsed in general terms the policy the industry had been following in 1928 and 1929.

II. 1930 to September 1931

At the end of 1929 the world depression began to add to the difficulties of the industry. For a time raw cotton prices were kept up artificially by the stabilization experiments of the American Federal Farm Board, but in January, 1930, cotton prices, and along with them yarn and cloth prices, fell sharply under the stress of declining activity in all the principal cotton industries of the world. The depression in the British cotton industry had hitherto been most severe in the American spinning section and in the "plain" section of the manufacturing industry; from 1930 it became more general throughout all sections of the industry.

This further decline in production and employment pressed the urgent need of taking every step to reduce costs of production. The merits of ring spinning, the use of Indian cotton, high draft spinning, and of automatic looms were discussed, but the introduction of new machinery and mechanical devices all involved spending money and many firms had little capital left after ten years of depression. Moreover, it was pointed out that the principal competitor to the United Kingdom—Japan—did not use

automatic looms to any large extent, and also that recent technical experiments had not proved that automatic looms would produce cloth more cheaply than the ordinary Lancashire loom, especially when the capital costs of the installation of automatic looms was included.

In any case, it seemed that a great deal of the success of Japan and European countries was to be attributed to the lower wages paid to the operatives of those countries. Thus, the agitation for reducing costs of production ended in proposals for increasing the number of looms worked per operative and for reducing wage rates. From 1922 to 1929 wage rates had not been reduced. In August, 1929, a reduction of 6 per cent had been agreed to by the operatives in the spinning and manufacturing sections. It was now urged that there should be a further reduction to meet the present emergency.

One outcome of the discussion on costs of production and of wage rates was the sending in 1930 of a mission composed of representatives of employers and operatives to the Far East to study conditions in Malaya, Japan and China. While the mission was away, a settlement of the wage question was temporarily reached, and it was hoped that the report of the mission on its return would provide a basis for future policy. Unfortunately, while the mission was able to make a close study of marketing conditions in China, it was not able to collect any substantially new evidence on the vexed question of the efficiency of the Japanese industry.

Under the stress of declining employment the loss of trade had become so great at the end of 1930 that it was obvious that mere palliative methods were not sufficient to help the industry out of the depression. In June, 1931, out of 52 million spindles in the industry, 11·6 million spindles were in mills completely idle, and it was proposed that 10 millions of these spindles should be scrapped and a corresponding reduction made in the capacity of the other sections of the industry.

The proposal was perhaps too rational for common acceptance, although the same result will be achieved in the end by individual decision if the economic basis of the original proposal was sound. The Joint Committee of Cotton Trade Organizations suggested

that each section of the industry should prepare an estimate of its surplus capacity and this surplus should be scrapped. The money needed for this purpose would be provided out of a central fund financed by levies paid by all firms in the industry. The scheme, however, though it was accepted in principle by leaders of the industry, did not gain the general support of the industry.[1]

III. September 1931–1934

The discussions regarding the surplus capacity schemes were interrupted at the end of 1931 by the sharp revival of trade following the United Kingdom's departure from the gold standard. In so far as the industry depends to a greater extent on export trade than any of the major industries of the United Kingdom apparently the cotton industry stood to gain most by the depreciation of sterling.

In practice the benefits to the cotton industry were limited. The depreciation of sterling in terms of gold gave the United Kingdom an advantage over competing countries, but this competitive advantage could not of itself lift the general depression which existed in almost all countries of the world. Moreover, the possibility of increasing British exports of cotton goods was limited by other countries also leaving the gold standard and by the introduction of tariff and quota restrictions against British goods. During the first six months after September, 1931, such restrictions affected half the export trade in cotton goods, and at the end of December, 1931, countries responsible for two-thirds of the world's export trade in cotton goods were off the gold standard and among these was Japan.

In 1932 and 1933 competition between the United Kingdom and Japan increased. The depreciation of the yen much below sterling gave Japan an advantage, and Japanese export prices fell so low that it appeared that Lancashire prices could not be brought down even by rigorous reorganization to a competitive level on a wide range of qualities.

A defensive policy began to be urged. The home market for cotton goods was made safe against foreign competition by the

[1] The scheme so far as it applies to the spinning section was revived in 1934, and an Enabling bill was introduced by the Government in the House of Commons in July, 1935.

new import duties imposed in 1932 and the effect of sterling depreciation; the Ottawa agreements were intended to maintain and develop trade with the Dominions; the Colonies might be persuaded to restrict their markets mainly to British goods and in those countries where preferential terms could not be negotiated, some agreement might be reached for division of markets with Japan, the other chief exporting country. At the end of 1933 discussions took place between British and Japanese representatives in London to find a possible basis for such an agreement, but unfortunately the negotiations between the two countries were not successful. While Great Britain was anxious to secure an agreement limiting the extent of Japanese competition in non-Empire countries, Japan was more anxious to make sure of retaining and developing its trade in Empire countries.

During the last two years there has been no agreed policy within the industry except perhaps one of *sauve qui peut*, and the large number of mills which are closed and the continued trouble over wage agreements reflect the general state of confusion. Perhaps it may be that a period of attrition is necessary if the industry is to settle down to a new and a more stable basis. Unfortunately, there has been a large number of cases of firms breaking away from existing wage agreements and of operatives acquiescing in lower wage rates and new working conditions, particularly in the manufacturing section. With the support of the official associations of both employers and operatives, the Cotton Manufacturing Industry (Temporary Provisions) Act was passed at the end of June, 1934. It is intended to standardize wage rates and working conditions, somewhat on Trade Board principles, throughout the manufacturing section of the industry, where during the last few years the influence of the employers' association and of trade unions has been reduced. The Act came into force on July 15, 1935.

In 1934, the cotton industry was working to about three-quarters of its reduced capacity; exports of cotton piece goods amounted only to 2067 million square yards, compared with 3672 million square yards in 1929; and the percentage of cotton operatives unemployed had risen to 24 per cent, compared with 13 per cent in 1929.

APPENDIX I

STATISTICS RELATING TO THE BRITISH COTTON INDUSTRY AND TRADE

TABLE I

PRODUCTION OF COTTON YARN IN THE UNITED KINGDOM

	1912	1924	1930
	Million lb.		
TOTAL . . .	1982·8	1395·2	1047·1
Up to 40's	—	1022·0	821·6
41's to 80's	—	313·7	185·2
81's to 120's	—	55·9	36·8
121's and over	—	3·6	3·5

Source: Census of Production.

Waste yarn is included in the item "Up to 40's" and is estimated at 90 million lb.

The 1930 figures do not include production (1·3 million lb. in 1924) of firms outside the cotton spinning industry.

TABLE II

PRODUCTION OF COTTON PIECE GOODS IN THE UNITED KINGDOM

	1912	1924	1930
	Million square yards		
TOTAL . . .	8050[1]	6026	3399[2]
Woven wholly or in part of dyed yarn	719	479	291
Pile Fabrics	—	—	29
Finished—			
Bleached but not dyed or printed .	2539	1915	1163[3]
Dyed but not printed . . .	1263	981	766[3]
Printed whether dyed or not .	1305	834	603[3]

Source: Census of Production

[1] Figures for 1912 are in linear yards.

[2] Figures for 1930 exclude piece goods recorded by value only amounting to about 3 per cent of total production.

Figures for 1924 include rayon and cotton rayon mixtures woven in the cotton industry, amounting in 1930 to 121 million square yards.

[3] Figures relate to Great Britain. In 1924, production of finished cotton goods in Northern Ireland was less than 3 per cent of total production.

TABLE III

COTTON TRADE UNEMPLOYMENT IN LANCASHIRE
(*Manchester University Survey Region*)

	No. of Insured Persons at July			No. of Insured Persons Unemployed[1]		
	Males	Females	Total	Males	Females	Total
1923	166,481	293,203	459,684	28,848	59,811	88,659
1924	165,887	300,114	466,001	22,145	43,246	65,391
1927	170,840	301,147	471,987	14,761	25,468	40,299
1929	170,370	296,820	467,190	20,718	42,292	63,010
1930	166,450	303,710	470,160	65,330	133,695	199,025
1931	162,780	300,850	463,630	65,413	135,494	200,907
1932	159,530	276,400	435,930	50,521	82,590	133,111
1933	153,840	265,680	419,520	40,802	64,835	105,637
1934	144,780	244,540	389,320	39,725	60,349	100,074

Source: Ministry of Labour.

[1] Quarterly averages except for 1934. The 1934 figures are for September.

TABLE IV

EXPORTS OF COTTON MANUFACTURES FROM PRINCIPAL COUNTRIES

	1924	1929	1930	1931	1932	1933	1934
	Million £						
United Kingdom	200·4	136·3	88·2	57·0	63·3	59·4	59·5
United States	30·0	27·8	18·2	13·3	13·0	9·3	8·6
Japan	44·6	46·0	32·8	24·8	26·8	27·4	34·0
British India	7·6	6·0	4·2	3·5	2·9	2·2	1·9
France	36·3	26·4	21·0	15·2	14·1	14·1	13·5
Italy	22·1	20·2	15·0	11·5	10·7	9·5	8·3
Czechoslovakia	15·3	17·2	14·5	10·3	6·5	5·2	4·9
Holland	7·9	9·7	6·9	5·0	3·2	2·1	2·6
Germany	24·5	24·4	20·9	17·6	11·8	10·2	8·2
Switzerland	16·1	9·5	7·2	5·9	4·1	3·5	—
Belgium	8·7	10·9	9·1	10·8	7·4	7·6	7·0

Source: Joint Committee of Cotton Trade Organizations.

TABLE V

EXPORTS OF COTTON MANUFACTURES FROM THE UNITED KINGDOM (KINDS)

	1924	1929	1930	1931	1932	1933	1934
	Million £						
TOTAL	200·4	136·3	88·2	57·0	63·3	59·4	59·5
Yarn	27·8	20·8	14·5	10·9	10·4	10·1	10·2
Finished Thread	7·0	6·7	5·6	4·0	4·4	4·2	4·2
Piece Goods	153·4	99·3	61·3	37·3	43·6	40·2	39·8
Flags, Handkerchiefs and Shawls, not in the piece	2·1	1·7	1·0	·6	·6	·6	·6
Lace and Net	2·5	1·4	1·1	·8	1·1	1·1	1·2
Small Wares	·4	·3	·2	·2	·2	·2	·2
Made-up Goods for Household Purposes	3·3	3·1	2·0	1·3	1·2	1·1	1·3
Hosiery and Underwear	1·0	·7	·5	·4	·4	·4	·4
Other Cotton Manufactures	2·8	2·4	1·9	1·5	1·4	1·5	1·6

Source: Joint Committee of Cotton Trade Organizations.

TABLE VI

EXPORTS OF COTTON YARN FROM PRINCIPAL COUNTRIES

	1924	1929	1930	1931	1932	1933	1934
	Million lb.						
United Kingdom	163·1	166·6	137·0	133·5	141·7	135·1	130·4
France	35·3	35·7	25·4	19·1	16·4	14·4	18·5
Germany	13·4	22·9	15·7	12·1	12·2	10·0	6·1
Belgium	20·6	13·7	12·0	11·1	7·2	8·5	15·5
Holland	4·0	5·9	6·1	4·1	2·2	4·3	7·4
Italy	37·9	51·8	53·3	60·6	63·5	61·7	57·3
Switzerland	14·5	15·0	13·6	10·7	5·7	4·7	12·1
Austria	22·4	23·4	14·2	7·9	6·0	13·9	15·8
Czechoslovakia	40·0	59·0	58·4	44·0	33·8	27·2	24·9
Poland	2·1	3·3	3·9	1·6	1·9	1·9	1·7
Japan	108·1	27·0	23·8	12·7	35·6	19·2	25·7
China	19·6	46·0	44·0	82·4	46·2	72·2	59·9
United States	13·7	27·5	18·1	14·3	15·5	12·0	7·6
British India	31·3	28·6	23·1	22·1	16·7	17·1	13·4
Total (above Countries)	526·0	526·4	448·6	436·2	404·6	401·6	396·3
United Kingdom percentage of Total	31·0	31·6	30·5	30·6	35·0	33·6	32·9

Source: Joint Committee of Cotton Trade Organizations.

TABLE VII

EXPORTS OF COTTON PIECE GOODS FROM PRINCIPAL COUNTRIES

	1924	1929	1930	1931	1932	1933	1934
	Million £						
United Kingdom	153·4	99·3	61·3	37·3	43·6	40·2	39·8
Japan	30·4	39·2	27·7	21·5	22·6	23·4	29·1
United States	17·7	16·3	10·6	7·9	7·8	5·6	4·9
British India	4·7	3·9	2·6	2·3	1·9	1·3	1·2
France	20·9	16·2	13·1	9·2	8·5	9·3	8·9
Italy	16·5	14·0	9·5	7·1	6·4	5·5	4·4
Czechoslovakia	11·3	10·5	8·2	5·8	3·5	2·5	2·2
Holland	6·5	8·2	5·8	4·3	2·7	1·7	2·0
Belgium	3·7	6·4	5·8	5·6	4·3	4·8	5·0
Germany	5·8	5·2	4·5	3·6	2·5	2·1	1·9
Switzerland	5·5	3·6	2·8	2·6	2·2	2·0	1·9
Austria	1·9	1·4	1·0	·7	·5	·4	·4
Poland	2·5	·7	·4	·3	·1	·1	·1
Total (above Countries)	280·9	225·0	153·3	108·4	106·7	98·9	102·0
United Kingdom Percentage of Total	54·6	44·1	40·0	34·4	40·9	40·7	39·1

Source: Joint Committee of Cotton Trade Organizations.

Values converted on the mean rate of exchange for each year.

APPENDIX II

STATISTICS

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THE WOOL TEXTILE INDUSTRY

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THE WOOL TEXTILE INDUSTRY

In the wool textile industry the crisis of 1929 merely served to intensify problems arising out of the contraction of foreign trade after 1924. Throughout almost the whole of the post-war period the industry has been preoccupied with the question of adjusting cost of production to selling prices in international markets. There has been no prolonged spell of good trade and the industry has been fighting a losing battle in the export trade.

The major problems were already defined by 1925, and the following brief summary will show how events in the early post-war years determined the character of the action taken upon the renewal of the depression in 1929.

1921. In 1921 the industry shared the general collapse in trade. Heavy cancellations of contracts, originating in the Far East, led to widespread financial difficulties. By June the unemployment figure amounted to nearly 24 per cent, but with remarkable rapidity conditions improved in the second half of the year and unemployment once more fell to the level of the beginning of the year.

1922. This change heralded a year in 1922 in which unemployment fell to pre-war levels. Optimism was widespread, and improved trade was based upon a keen demand for the better classes of wool and the finer qualities of cloth.

1923. This improvement promised to persist in 1923, but the record for the year was spoilt by political crises on the Continent and the French invasion of the Ruhr in the second quarter of the year. In January there was only 4 per cent of unemployment, a figure also recorded for the month of June, but by September this figure had been raised to 11 per cent, at which level it stood for the remainder of the year. The French disturbance affected chiefly the trade in woollen and worsted yarns.

1924. In 1924 the year opened with nearly 10 per cent of the insured operatives unemployed, but considerable improvement took place between January and June, only to be followed by

a renewed depression during the last five months of the year, particularly in the heavy woollen areas. Scarcity of raw material, and gradually rising prices, contributed very largely to this condition. Between March and July there was a miniature boom for the makers of woollen goods, as the result of a quickened demand following upon the Japanese earthquake of 1923.

The year 1924 was notable for the fact that exports of woollen and worsted cloths again touched pre-war figures, but the exceptional demand in the Far East must not be forgotten when this expansion is being considered. Another feature of the year was the attention attracted by the competition arising from the depreciation of the franc, and complaint was made in trade journals that there were "too many French-made dress fabrics sold among home-trade houses to mean prosperity to the looms of the West Riding."

This complaint was the beginning of a complicated discussion which was to dominate the industry from 1925 to 1931. The issues of Safeguarding and wages were mixed up in the process of finding ways and means of meeting competition from lower priced foreign products. After 1924, the year still spoken of as the best post-war year, the record of the wool textile industry was one of repeated disturbances.

1925. In 1925 there were violent changes in prices, severe unemployment, and trade hampered by financial and political disturbances abroad. Reaction from the rise in raw materials during 1924 began in December of that year. The downward movement developed into a serious slump, and by June, 1925, fine wools were nearly 40 per cent cheaper than in December, 1924, and medium quality wools nearly 50 per cent cheaper. This period was, therefore, a painful one of realizing large stocks of wool, bought at the high levels ruling in the later months of the previous year. Australian dealers were tempted to meet the situation by curtailing auctions, but the process only served to shake confidence still further, because a heavy carry-over of wool resulted, just when there was a prospect of another heavy clip. A shipping strike which began in Australia in July checked the flow of wool to consuming centres for a time and prices revived, but with the settlement of the strike values receded

again, and the year closed with quiet markets and values back almost to the lowest point of the year.

Events in 1925 invite comparison with 1921. In the former year it was heavy cancellations of orders for finished goods that thrust a large share of the loss upon manufacturers, merchants and their employees. In 1925 the chief source of trouble was the market for raw materials, and in a period of hand-to-mouth trading the combers and the spinners bore the brunt of the depression. In 1921 unemployment mounted rapidly to June and then fell away again by December. In 1925 the peak was not reached until August when there were over 21 per cent of the insured operatives unemployed, but by December this figure had fallen to 9·6 per cent.

In August, 1925, there was a strike lasting for a month on the wages question, and some take the view that the revival in September onwards was largely due to the necessity of making up the time lost during the strike. The wages dispute was referred to a specially appointed Court of which Sir Harold Morris was Chairman, and this Court decided that there should be no change until 1st January, 1927. Thereafter either employers or operatives could give one month's notice to reopen the discussion. It is true that the settlement of the wages dispute, followed by a reduction in combing charges, gave rise to a feeling of greater confidence. There was a sharp drop in unemployment in the Bradford, Huddersfield and Halifax areas, but there was still uncertainty about the values of raw materials at the turn of the year. In November an application had been made by the Bradford Manufacturers' Association for a Safeguarding Duty on fabrics which were held to be coming into this country from France with an "unfair advantage" conferred by the falling value of the franc.

1926. In 1926, from January until the end of April business was slowly improving, in the worsted section particularly. The large supplies of wool available in the season 1925–26 were being absorbed. Prices remained remarkably firm in the face of a large clip. Germany, France and the United States were all competing keenly for wool, and the fear that 1926 would witness another slump like that of 1925 was banished. Falling percentages of

unemployment reflected increasing activity in the manufacturing section of the industry, and a brisk demand for cloth in the Canadian market raised hopes that a good year's trading might be enjoyed. These hopes were dashed by the prolonged mining dispute and the General Strike. Not only was the summer trade ruined but the autumn trade also was jeopardized by the uncertainty springing from the industrial disputes.

But the year witnessed an important stage in the development of the controversy about Safeguarding and wages. The report of the committee which heard the application put forward in November, 1925, was issued in April, 1926. This report declared that the case for the proposed duty had not been made out, but there was a conditional recommendation that a duty might be considered desirable if the value of the franc fell further. As the franc continued to fall until well into July, when it touched 244 to the pound, the agitation for the duty was renewed. A group of interested manufacturers endeavoured to win over the trade union representatives, whose evidence at the November inquiry had undoubtedly weighed heavily against the claim for a duty. These overtures did not succeed, and the National Association of Unions in the Textile Trade reported that "there was not sufficient evidence to satisfy the conditions required by the Board of Trade." There the matter was to rest until the wages negotiations were resumed in 1927.

1927. In 1927 trade was fairly stable in the earlier part of the year, but in the latter months a hardening tendency in the raw wool market once more directed attention to the relationship between cost of production and prices. The employers became impatient with the Morris award, and began to move for the reduction of wages. Protracted discussion resulted in a complete breakdown of negotiations in November. The collective agreement which had been in operation since the establishment of the Industrial Council immediately after the war was abandoned. The Joint Industrial Council broke up and was not to meet again as a negotiating body.

Most significant, perhaps, was the change of attitude on the part of the operatives' representatives. At the close of 1926 they had insisted that there was no case for a Safeguarding

Duty. In the course of the critical negotiations of 1927 "the possibilities of Safeguarding" were put forward by the trade union representatives as one of four points to offset the employers' demand for a reduction of wages.

1928. Thus the year 1928 began under the shadow of deadlock on the wages question. That no action was taken immediately by the employers was explained by the advent of an unexpected spell of brisk trade between December, 1927, and March, 1928. With the exception of two or three short-lived rises the percentage of unemployment had fallen steadily since the date of the General Strike in mid-1926. The figures for the first quarter of 1928 confirmed the appearance of better times, and in March the percentage of unemployment was the lowest recorded since the close of 1924. In April, 1928, the revival ceased as quickly as it had come. By September the percentage of unemployed had risen from 7 to 17. The renewal of adverse conditions threatened the industry with a revival of the controversy on wages and the costs of production. The slump after April was accentuated by speculative purchases of raw material during the first three months of the year. Stocks which it had seemed reasonably possible to clear in March lay heavily on the hands of their buyers even when the new season's clip began to arrive.

The return of poor trade found both employers and operatives without a remedy. As no notices of reduction had been posted the trade unionists were content to wait, but as things got steadily worse the manufacturers looked for the first opportunity to revert to their 1927 plan of a cut in wages. This rather easy-going handling of the situation presented an opportunity to a small group of employers, enthusiastic about Safeguarding, to approach the trade unionists in September. Two months of private negotiation resulted in the declaration that the executives of the National Association of Unions in the Textile Trade had been converted to the support of the Safeguarding policy, and later the executives of the constituent unions confirmed this change of attitude by a majority vote. The official pronouncement by the unions made it perfectly clear that the change of front had been compelled by economic pressure. It declared that universal Free Trade was perfectly sound, but had become

impossible. Safeguarding was not "the ultimate remedy," and any departure from the existing system must be regarded as "an experiment" to be made for "a limited number of years." But the essence of their position was expressed in the statement, "We have either to keep out goods produced at a lower cost, or face the possibility of an attack on wages."

Safeguarding for the trade unionists had become an alternative to wages reduction. This led to a paradoxical position. All negotiations within the Joint Industrial Council before its breakdown in 1927 had rebutted the suggestion that Safeguarding and wages revision were alternative policies, and the employers' associations were quick to reiterate that there was no truth in the suggestion that in return for the operatives' support of Safeguarding the employers would desist from a further attack on wages.

The reason for this is to be found in an analysis of the probable effect on employment of the exclusion of imported fabrics. Even the trade union statement did not anticipate that more than about 8400 additional operatives would find employment, and as this number was only between 3 and 4 per cent of the number of operatives in the industry, it was clear that a wide gap would still remain between an existing loom activity of 63 per cent and a possible 100 per cent. In other words the employers realized that the most favourable interpretation of the results of a Safeguarding policy would leave unsolved the problem of reducing costs.

Because a new and joint demand for Safeguarding had been agreed upon, the employers held their hands until the findings of the Committee should be made known after the inquiry in February, 1929.

The other main feature of the year 1928 was the weakening of the raw wool market. Prices began to fall in April and the drop continued to the end of the year. This fall was to prove a long one, for with little check prices declined throughout 1929 and 1930, and after a short-lived improvement in February-March and September of 1931, moved erratically at low levels through 1931 and 1932. There was to be no firm rise until after March, 1933.

It is important to note, therefore, that the return of depression came in the wool textile industry a year or more before the general collapse of trade and prices in 1929. This confirms the statement at the opening of this review that the crisis of 1929 merely served to emphasize difficulties that had already become apparent. In no sense was 1929 a year that changed the fortunes of the wool textile industry from conditions of boom to those of depression.

It may be appropriate at this point to summarize the changes in the exports of woollen and worsted tissues, because it is the contraction of the export trade in fully manufactured goods that has so seriously curtailed wool textile activity.

EXPORTS OF WOOLLEN AND WORSTED TISSUES FROM THE UNITED KINGDOM TO PRINCIPAL MARKETS

	Million Square Yards								
	1924	1928	1929	1930	1931	1932	1933	1934	Gain or Loss since 1924
To—									
Japan	37·7	12·0	7·2	4·4	6·1	4·8	5·2	2·8	— 34·9
China	29·1	20·8	11·7	7·3	9·0	7·5	5·7	3·6	— 25·5
Canada	30 2	26 2	23 5	18·1	9·7	8·9	9·6	13·1	— 17·1
Australia	16·9	8·7	7·1	3·2	0·3	0·6	0·9	1·7	— 14·2
U.S.A.	17·2	13·4	15·3	7·4	3·2	2·6	4·1	3 8	— 13·4
India	7·4	6·6	4·3	2·7	1·4	3·2	3·9	4·6	— 2·8
Argentine	10·2	12·4	12·2	9·0	6·5	5·2	7·6	8·6	— 1·6
South Africa	4·6	6 3	5·8	4·6	5·3	5·2	8·5	9·1	+ 4·5
Netherlands	6·0	3·4	3·8	3·8	3·4	3·3	3·7	3·2	— 2·8
Germany	2·1	7·1	7·1	6·6	4·4	2·5	1·7	1·9	— 0·2
TOTAL (including all other Countries	221·6	170·7	155·6	113·7	86·1	81·8	94·2	102·2	— 119·4

This table shows that the decline in the export trade was well under way between 1924 and 1928. The annual total had been reduced by 51 million square yards in those years. The depression of 1929–32 served to increase the rate of loss, and by 1932 a further 89 million square yards were taken off this total. In 1933–34 there was some recovery, but even then exports were 68 million square yards less than in 1928 and nearly 120 millions less than in 1924.

Japan's substitution of home products for imported fabrics, and her competition in China have seriously reduced exports from the United Kingdom to these Far Eastern markets. In

Canada, Australia, and the United States closer protection of the home market has meant smaller imports from this country.

If the insistent demand for Safeguarding and cuts in wages is to be understood, the conjunction of this loss of export trade (aggravated by a "precipitate return" to the gold standard in 1925[1]) with "unfair competition" in the home market from France, in particular, must be borne in mind. It must be remembered also that when the depression of 1929 arrived there had been no change in the wages rates established in 1922–23.

1929. In February, 1929, the second inquiry into the demand for a Safeguarding duty on worsted fabrics was begun. So prolonged were the proceedings that the Committee was unable to present its report in time for the Conservative Government to bring it before Parliament. Then came the General Election in May, and the declarations of the new Government ruled out all hope of Safeguarding being tried. It is only fair to add that the outcome of this second inquiry was favourable to those who desired to try a Safeguarding policy.

With the change of circumstances brought about by the election the workers were compelled to face once more the employers' demand for a reduction of wages. Even in January the largest association of employers had publicly declared that their right to call for wages revisions was not limited in any way by the Safeguarding agitation.

In April the first sign of a breakaway amongst the employers came when a group of firms in the Dewsbury-Batley area proceeded to reduce the wages of their operatives. Reductions enforced in this way by private firms did not prove numerous, but the action taken undoubtedly tended to widen the gap between employers and operatives, and delayed indefinitely the chances of achieving a new collective agreement. In July the employers submitted a demand for a reduction of 9·09 per cent on gross wages. The operatives replied that a cut of 7·25 per cent might be considered, but in the absence of further compromise

[1] That the return to gold prejudiced the export trade is firmly believed n wool textile circles. Exports of woollen and worsted tissues fell from 221·6 million square yards in 1924 to 179·5 million in 1925, and 162·3 million in 1926. After a slight recovery in 1927–28 there was a heavy fall from 1929–32 (see Table on page 359).

negotiations broke down late in August. The following month the employers suggested an agreement on the basis of an 8·3 per cent reduction, but when the unions met the first week in October this figure was summarily rejected. The executive, however, arranged a ballot for the third week in October, and the employers resubmitted the 8·3 per cent as the figure on which the ballot should be taken. The vote rejected the employers' offer, and once more the two sides were put back to the position of deadlock that had arisen in November, 1927. On the last day of the year it was announced that the Minister of Labour had decided to set up a court of inquiry under the terms of the Industrial Courts Act, and Mr. Hugh (now Lord) Macmillan was appointed to conduct the inquiry.

The table given above shows that in 1929 exports of fully manufactured woollen and worsted cloths fell to 155·6 million square yards compared with 170·7 million in 1928. Note has already been taken of the fact that wool prices continued to fall throughout 1929. An Australian wool at 39 pence in January fell by October to 26 pence. The only check to this fall occurred between February and March, and the optimism of those months was falsified by the renewed drop in prices during the next six months. A short-lived stiffening of prices in November inspired the hope that the turn awaited since April, 1928, had come, but in December prices eased again, and the year closed without there being any firm confidence in the value of raw material.

To meet the crisis in wool-growing countries the Australians formulated a "Use More Wool" scheme. This was prompted by the belief that competition from artificial silk was the chief source of the decline in the value of wool, but the financial provisions were unequal to the scale of the plan.

1930. In 1930 the industry had a gruelling year. Raw materials which at the close of 1929 had touched pre-war prices, and were then generally considered under-valued, registered another heavy fall to a position well below 1914 figures. Finer wools dropped about 30 per cent during the year, and a medium type quoted at 16 pence at the beginning of the year fell to eightpence before the close. These drops were sufficiently serious in themselves, but the devastating effect that they had on the trade

can only be gauged when they are viewed as the continuation of the decline that began in April, 1928.

Hard times confirmed the Australian grower in his desire to regulate wool values by means of a closer control of supplies to the market. It is not clear that the Australian plan would have been able to modify in favour of the grower the fall in world prices, but it is interesting to note that the depression drove both producers and consumers of wool to a consideration of a closer regulation of the supplies of raw material. This did not mean, however, that the old suspicion of a wool "futures" market had been overcome, either in Australia or in this country.

The returns of overseas trade show that 1930 was as trying for manufacturers and merchants as for wool-growers and importers. Exports of tops from the United Kingdom, which had been declining since 1927, were still falling. A total of 41·9 million pounds exported in 1927 had fallen to 28·8 million pounds in 1930. Exports of worsted yarns fell over the same period from 45·3 million pounds to 31·9 million pounds. An encouraging development in the export of woollen yarns in 1927–8–9 was not maintained, and the total for 1930 fell back to about the 1926 figure. Exports of woollen and worsted cloth were again far below the previous year's figure, at 113·7 million square yards compared with 155·6 million in 1929. With losses like these to face it is not surprising that unemployment was bad throughout the year, and at the worst point the percentage of insured operatives unemployed was higher than that registered during the crisis of 1921.

With the publication of Lord Macmillan's Report on the wages issue, the dispute that had dragged on since 1925 came to a head. In Lord Macmillan's view a reduction of 9·25 per cent for time-workers was warranted, but he pointed out that even then wages would remain more than 70 per cent above pre-war rates. The award was not accepted with unanimity by the operatives, nor was it uniformly applied by the employers, for the cuts ranged from 5 per cent to 10 per cent in different firms. At the inquiry the operatives' representatives made much of the point that if a cut in wages was imperative, the rationalization of the industry by the employers was equally imperative. This

argument had little effect on employers, and the structure of the industry remains substantially as it was in the early post-war years.

One interesting point which emerged from the inquiry was that the benefits of de-rating had proved less substantial than had been hoped, because employers' representatives informed the Macmillan Court that the net effect of de-rating was a decrease of only 0·5 per cent in the sale price of the cloth.

1931. When the year 1931 opened the fall in wool prices was still unchecked, and the industry was in a state of gloom. In January, however, there was a favourable reaction at the wool sales and prices moved upwards until the middle of March; then a renewed fall brought values back by early September almost to the lowest point touched in January. The departure from the gold standard was the signal for a sharp rise. This gain was largely lost in October, but the loss was made good again in November. As in March, the higher level proved unstable and prices fell during the last five weeks of the year.

The April decline revived the pessimism of 1930 and drove discussion again to reduction of wages. Employers felt that the Macmillan award had not conceded their full claims, and in June they mooted a further reduction of 14·6 per cent. This figure was later reduced to 11·7 per cent, and in spite of protests by the operatives and a strike among the woolcombers, employers were able to enforce their second reduction of wages within eighteen months. This meant in all a reduction of about 20 per cent on the rates prevailing at the beginning of 1930.

As the exports of cloth were still declining, and in 1931 reached only 86·1 million square yards compared with 221·6 million in 1924, the hope was freely expressed that what had been lost in overseas markets by going back to gold in 1925 might, perhaps, be regained by going off gold in 1931. The turmoil of the wages dispute had barely subsided when the suspension of the gold standard occurred. Sluggishness was transformed into feverish activity, and the unemployment figures fell sharply. Exporters shared the optimism of the moment and saw in a cheapened pound the opportunity to do business in foreign markets that the gold standard had made impossible for well nigh six years.

In November the announcement of "anti-dumping" duties on yarns and piece goods made those engaged in the home trade cheerful at the prospect of a spell of protected selling. By the close of the year there was a marked tempering of this initial enthusiasm. In particular, it was realized that a diversion of international trade, occasioned by a sudden currency change, was not the same thing as a net increase of world demand.

1932. In 1932 interest centred chiefly in the effects the protective duties and the depreciated pound might have upon trade and unemployment. The Import Duties cut down an import of approximately 50 million square yards of cloth to a figure of 7 million square yards, but the depreciation of the pound did not suffice to arrest the decline in exports, which stood at 81·8 million square yards of woollen and worsted cloths compared with 86·1 million square yards in 1931. Stiffer tariffs abroad, exchange restrictions and the imposition of quotas by foreign countries presented formidable obstacles. At the end of March the 50 per cent Abnormal Imports Duties was reduced to 20 per cent on fabrics and 10 per cent on yarns.

Events proved that the chance of replacing imported goods did not yield the anticipated increase of employment. For the first quarter of the year the monthly average of insured workers unemployed was 16 per cent, 22 per cent for the second quarter, and 23 per cent for the third quarter. The index of wages paid in the industry was 77·1 for the first quarter, 70·5 for the second, and 67·9 for the third. Neither set of figures reflects the degree of activity that was expected when the duties were imposed.

From the primary markets the complaint of abnormally low prices for raw wool persisted. The embarrassment of South America and Australia was acute in consequence and the policy of adhering to the gold standard in South Africa is reported to have brought many producers to the verge of ruin in spite of the export bounty on wool. The Commonwealth Wool Inquiry Committee reported that the gold price of wool in 1932 had been round about 5d. per pound, and the value of wool exported in the last two years had been less than half the gold value of 1927–1928. It was estimated that the annual loss on the clip in each of those two years had been about £34,000,000. It is not

surprising, therefore, that 1932 closed with the hope that something would happen to improve wool prices.

1933. In 1933 the long-awaited rise occurred, and a fine merino wool quoted at 21d. a pound in January stood at 33d. by December. Confidence returned in both home and export trade, and unemployment fell to 9 per cent by the close of the year. Exports of woollen and worsted cloth rose to 94·2 million square yards compared with 81·8 million in 1932, but the issue of the Census of Production 1930 Final Report (Textile Trades) brought home the fact that between 1924 and 1930 the proportion of the total product exported had fallen from 50 per cent to 36 per cent. As this latter figure related to an output of fabrics that was 25 per cent less than the 1924 production the seriousness of the contraction of overseas trade is apparent.

The fall in the number of insured operatives (approximately 30,000 in ten years) is one index of the loss of trade. Yet the net imports of wool showed a steady advance from 1928—in spite of a smaller output of woven fabrics. This was due, in part, to the substitution of relatively cheap wool for rags in the products of the heavy woollen areas.

This new spell of better trade was to last for little more than a year, and proved to be based mainly on home demand. Events in Germany early in 1934 unsettled the raw wool market, and the sudden return of uncertainty restricted trade and raised the percentage of unemployment from 11·2 per cent in January to 21·2 per cent in June, 1934.

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THE HOSIERY TRADE

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THE HOSIERY TRADE

BEFORE THE DEPRESSION. The hosiery trade, which is located mainly in the Midland counties of Leicester, Nottingham and Derby, now employs about 120,000 workers and therefore ranks third among the textile trades of the country; its steady expansion throughout the post-war period may be contrasted with the persistent shrinkage in all other branches of textile manufacture except silk and artificial silk. This expansion must not be taken as evidence of general prosperity, however. The increased production of stockings and fancy hosiery, largely of artificial silk, has to some extent been offset by a decline in the cotton and woollen branches, necessitating considerable changes in equipment and causing much dislocation. Moreover, the home trade in certain lines has suffered from keen foreign competition. Very large quantities of cheap Japanese goods were being imported, and until quite recently German and American manufacturers were meeting the demand for very fine silk hose much more successfully than ours.

Although the imposition of the silk duties in 1925 brought some respite, competition in the cotton hosiery trade intensified, and in 1926 the National Joint Industrial Council made application for a safeguarding duty on cotton and woollen hosiery goods. It was admitted that the woollen trade was fairly satisfactory, but it was feared that if a duty were introduced for cotton only, foreigners would turn their attention to the unprotected woollen branch. The Board of Trade committee expressed the opinion that, taking the industry as a whole, employment was not at the time seriously affected, but that the importation of cotton hose and underwear was rapidly approaching such proportions as might have that result. In the following year the inquiry was reopened, but the applicants failed to prove their case to the satisfaction of the committee. The Census of Production showed that in 1924 cotton hosiery accounted for less than one-quarter of the total output, measured in dozens; at the same time the

share of the home market held by British-made goods of this class was about 65 per cent. It was therefore clear that if foreign cotton hosiery were excluded altogether there would not be any great increase in employment for the industry as a whole.

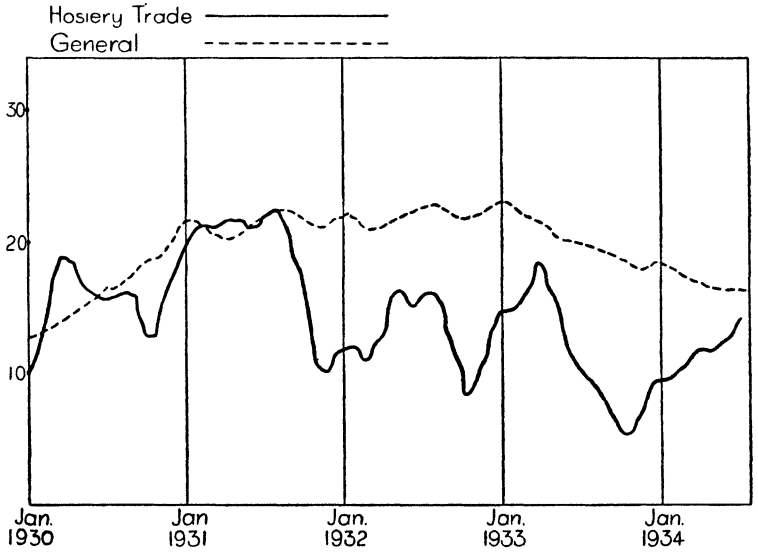
In proportion to total output the export of British hosiery goods was not particularly important; it was highest in stockings and socks, where the percentage in 1924 was 20·5, while for underwear and fancy hosiery the figures were 10·7 and 11·2 per cent respectively. Here again the trade had suffered from foreign competition, though this was evident before the war, especially in the cotton branch, where Germany and Japan had ousted us from most of the world's markets. In the woollen branch we were holding our own; but before the depression began, this trade was being seriously affected by increased tariffs, particularly in Australia and America. The former country was by far the most important market for British hosiery in 1925, when the imports of woollen hose amounted to £916,000, but by 1929 this had been forced down to £277,000; America was still the main foreign market for these goods in 1929, but imports for that year were only £385,000 as compared with £603,000 in 1925. Taking the trade as a whole, the value of exports declined from £7,689,000 in 1925 to £6,262,000 in 1929.

Despite the decline in exports and increase in imports the hosiery trade enjoyed comparative prosperity during the three years 1927–1929, the annual average percentage of unemployment being 6·4, 5·9 and 6·2. This is to be explained mainly by the success with which manufacturers adjusted production to the changing demands of the home market. Great improvements were made in the better qualities of silk and artificial silk hose; British goods came to equal German and American in fineness of gauge and finish, and their competition was made more effective by the tariff. Enterprise was shown also in the production of lightweight summer underwear; attractive styles in knitted dresses and costumes met an increasing demand; the bathing costume became an article for the adornment rather than the concealment of the body, and this line developed into one of first class importance in the industry.

Trade and Employment During the Depression. The

variations in the percentage of insured workers unemployed are the most satisfactory basis for measuring fluctuations in prosperity during the depression. In the accompanying chart the courses of these variations are plotted against the changes in general unemployment.

PERCENTAGE OF UNEMPLOYMENT



It will be noticed that the hosiery trade is subject to marked seasonal fluctuations. In the first two months of the year trade is generally slack owing to wholesalers' stocktaking and retailers' clearance sales. If the weather is mild, as in 1930, this slackness may continue until advance orders for spring and summer wear begin to arrive, which again depends largely upon the weather. After the inevitable lull during the holiday month of August there is generally a sharp recovery and the trade is at its busiest during the autumn, catering for the winter underwear demand. Hosiery manufacturing has in recent years shown extreme sensitiveness to changes affecting the retail market; it is in these days very largely a fashion trade, and the vagaries of fashion, combined with the uncertainty of prices, make dealers unwilling

to risk the carrying of large stocks or the placing of advance orders.

Upon these characteristic variations are superimposed the effects of general trade depression, involving reduced purchasing power, and of changes in tariff policy. The decline in exports may be considered first. In 1930 the value of hosiery exports was £4,467,000, nearly £2,000,000 below that for 1929; the 1931 total was only £2,951,000, and further slight reductions were recorded for 1932 and 1933, the tendency being continued in the present year. Before the depression began exports accounted for nearly one-sixth of total production, so that a good deal of the increase in unemployment, especially in 1931, must be attributed to this decline.

The effects of variations in imports, on the other hand, are more difficult to estimate. Imports were comparatively high in 1929, a fairly prosperous year; they increased to £6,025,000 in 1930, but declined in 1931, the worst year of depression, to £5,624,000, which is only £500,000 more than the 1929 total, though it would doubtless have been greater still but for the Abnormal Importations duty imposed in November, 1931. On this evidence it appears that imports have not been an important cause of unemployment and the argument is strengthened by the experience of 1933 when unemployment was increasing after the recovery of the previous year, although imports were now only £1,644,000. This suggests that the goods kept out by the tariff have not been substituted to any great extent by British goods. Analysis of the import statistics shows that over 60 per cent of the reduction is accounted for by cotton goods, mostly selling at very low prices. It might be that the difference between British and foreign costs of production was so small that a moderate tariff was sufficient to win a large share of the market for our manufacturers. But the evidence is all the other way; manufacturers complain, quite justifiably, that a far bigger tariff is required to bridge the gap between the respective costs of production. Apparently, therefore, it is not that British manufacturers, aided by the tariff, have beaten the foreigner; their high costs have beaten the British buyer. These remarks apply also in some measure to artificial silk stockings, imports

of which fell from £1,463,000 in 1930 to £656,000 in 1933; but it is probable that a fair proportion of the reduction represents increased sales of British goods, since the margin between home and foreign prices was in this line narrower, and the quality of our products has improved considerably in recent years.

It is surprising that the reduced purchasing power of the home market during the depression should not have had more serious effects upon the hosiery trade; the demand for underwear and also for the semi-luxury goods which now form such a large part of production has proved less elastic than might have been supposed. There have, however, been some important changes in the quality of goods sold, which is, of course, equivalent to a reduction in demand in so far as cheaper lines are preferred, and it is possible, on the information available, to form some tentative conclusions as to how the industry has been affected by the changes.

Employment has suffered to some extent, but except in 1931 the average percentage of unemployed is less than for industry as a whole, and considerably less than for manufacturing industry. It is true that allowance must be made for short-time working, which is a normal occurrence in the hosiery trade; but a Ministry of Labour inquiry showed that in a sample week of October, 1931, the percentage of workers on short time and the average number of hours lost by them were just about the same as when a similar inquiry was undertaken in 1924, which was a fairly prosperous year. Actually the number of insured workers attached to the industry continued to increase from 1929 to 1932, a slight fall being recorded in 1933. But such statistics are apt to mislead. An increase in the total of insured workers in any one year is mainly the result of the number of juveniles who entered the industry two years before. Thus the comparatively large increase from 107,950 to 112,240 in the year 1930–31, the worst period of depression, reflects the influx of young workers in the prosperous year 1928–29, and this is doubtless one reason for the very high unemployment percentage in 1931. On the other hand the decline in the number of insured workers from 114,200 to 114,050 in the year 1932–33 indicates a fall in the number of juvenile entrants during the depression.

Wages do not appear to have been seriously affected by the depression, although the available evidence must be treated with caution, in view of the great variety of the trade, and the constant changes in machinery and in the kinds of goods produced. An agreement of the Joint Industrial Council, made in 1921, provides for a cost of living bonus as an addition to pre-war basic rates, the bonus rising or falling a penny in the shilling with a corresponding change of 10 points in the index number. Calculated on this basis, wages, at the end of 1929 were 58⅓ per cent above the level of July, 1914; at the end of 1930 the bonus had fallen to 50 per cent, and a year later to 41⅔ per cent, at which level it remained at the end of 1933. But under the piece rate system, which is almost universal in the hosiery trade, allowance must be made for changes in the productivity of labour. According to a Ministry of Labour inquiry covering about half the industry, earnings in the week ending 24th October, 1931, averaged 58s. 8d. for men and 30s. 3d. for women as compared with 54s. 8d. and 28s. 8d. respectively for the sample week of October, 1924. The fall in the bonus, mentioned above, took place before October, and it had fallen 33⅓ per cent since October, 1924, yet actual earnings increased.

This, of course, does not prove that manufacturers' labour costs have increased; it is possible that they have been brought down despite the rise in earnings; but in the absence of definite information on this point one is driven to the contrary opinion. In some industries it has been possible to effect great economies in the use of labour by standardizing the product, introducing more automatic machines, and producing on a large scale. But in the British hosiery manufacture the possibility of such developments is distinctly limited. Semi-automatic knitting machines have long been in use, especially for seamless hose, but in other knitting processes, and more particularly in the making-up and finishing stages, a good deal of hand manipulation is inevitably required. As for standardization, the tendency, as in all fashion trades, is all the other way, except in certain cheap lines. Economy could doubtless be effected by concentrating production in large specialized units; but that is as much a financial as a technical problem, and there is little sign of such rationalization

at present; generally speaking, the larger the firm the greater the variety of product.

If labour costs have increased, there is no doubt that selling prices have been falling, though balanced to some extent by falls in the prices of materials. Unfortunately it is not possible to discover how manufacturers' profit margins have been affected by these changes, though we have some information about the relative importance of wages and materials in total costs of production. According to the analysis for 1924 submitted to the Committee on Industry and Trade, materials accounted for 64·5 per cent and wages of direct labour for 21·5 per cent of total costs. On this basis a change in the cost of materials is three times as significant as a change in the cost of labour, and the same ratio applies to economies in labour and in materials. Now there are three alternatives, assuming that no great economies in labour are possible: the fall in selling prices may represent the fall in the price of materials, passed on to consumers; then, if labour costs have risen, the profit margin is reduced; or it may be that a smaller quantity of material is embodied in the finished product (taking a lowering of "quality" as equivalent to this), in which case profit may be unaffected; or profit might conceivably increase, in so far as this smaller quantity of material is bought at a lower cost per unit. But in a time of trade depression the manufacturer is hardly in a position to squeeze the consumer; it is more likely that manufacturers, in their eagerness to maintain sales, have been driven to sacrifice some of their normal profit margin, for it is generally agreed that competition in the hosiery trade has never been keener than during the last few years. The cheap stores have exercised powerful influence here; they have provided a sales organization the efficiency of which is dependent on low prices, but in the hosiery trade the appropriate manufacturing organization has not yet developed, for reasons already shown, and to this extent profit margins must have suffered.

There is also reason to think that there has been some encroachment on monopoly profit margins. For instance, until a few years ago "interlock" fabric was a patent product manufactured exclusively by three firms; the quality was high, but selling prices probably allowed a considerable monopoly revenue.

But this trade is now open to all, the patent having expired, and the manufacturer's margin is determined under highly competitive conditions. Similarly, the proprietor of any branded article probably enjoys a certain monopoly revenue when it is first introduced; there is always the incentive to produce cheaper imitations, but this is considerably strengthened by the condition of the market in a time of trade depression, when the buyer considers price first, and is prepared to risk quality. The producers of ever-cheaper imitations may be driven at length into bankruptcy—in fact about 100 hosiery firms have gone out of business through one cause or another during the last four years—but in the process they squeeze the more prudent manufacturers, and profit margins are everywhere brought down.

TARIFFS. There is no doubt that tariffs, and still more the hopes and fears engendered by the uncertainty of tariff policy, have had a disturbing influence on the hosiery trade in the last few years. This is particularly marked in 1932 and 1933. The Abnormal Importations duty of 50 per cent *ad valorem*, imposed in November, 1931, applied to most classes of hosiery goods, and since the tax was in addition to any duties already in force, the silk and artificial silk branch benefited very considerably. But the tariff which replaced this temporary measure in the following year was distinctly disappointing to hosiery manufacturers. The Import Duties Act of March, 1932, provided for a general tariff of 10 per cent on most manufactured goods, but excepted those already chargeable with customs duty, which meant that the rate applicable to silk and artificial silk hosiery now reverted to the 33⅓ per cent *ad valorem* imposed by the Finance Act of 1925. In the following month an additional duty of 10 per cent was imposed on a long list of imports, including hosiery which now became chargeable on a 20 per cent basis. But the silk duties could only be dealt with by the Chancellor of the Exchequer who apparently feared that an additional 10 per cent in this case would mean a loss of revenue. In the end, however, he consented to the insertion of an additional clause in the Finance Bill of 1932 whereby imports of silk and artificial silk hosiery were levied with a total duty of 43⅓ per cent or with alternative specific duties if these gave a higher return.

But manufacturers still had a grievance in that the 1s. a pound excise duty on artificial silk yarn had become progressively more burdensome with the fall in the price of yarn since 1925, and the fall in the price of pure silk had similarly affected the burden of the customs duty carried by manufacturers using that material. These points were argued in a memorandum addressed to the Import Duties Advisory Committee by the National Federation of Hosiery Manufacturers in December, 1932, and after prolonged negotiations an Order was made, dated 28th June, 1934, whereby the excise duty on artificial silk yarn was reduced to 6d. a pound and the customs duty to 1s. 3d. while customs duties on silk were also reduced by various amounts according to the nature of the material.

The effects of this uncertainty are reflected in the variations in unemployment, and this evidence is reinforced by the results of the recent Survey of Industrial Development. There is surely more than coincidence in the fact that 32 new hosiery factories opened, 11 factory extensions were made, and 19 factories closed down in 1932, as compared with 14 new factories, 6 extensions and 22 closed down in 1933.

THE SEED-CRUSHING AND OIL-MILLING INDUSTRY

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THE SEED-CRUSHING AND OIL-MILLING INDUSTRY DURING THE DEPRESSION

THE industry to be described is that concerned with the manufacture of vegetable oils by the hydraulic and solvent extraction processes. The principal raw materials of this trade consist of various types of seeds and nuts, of which linseed, cottonseed, copra, palm kernels, soya beans and ground nuts are the most important, and they are obtained wholly from sources outside Great Britain. Certain classes of oils produced from these materials have qualities which render them particularly suitable for the production of edible fats: others, for example the "drying" oils such as linseed oil, are mainly used by the paint trade. But since some types of seeds and nuts may be readily substituted for others in the manufacturing process, the proportion in which each of them is used by the British millers varies greatly from year to year according to changes in their relative prices and in the prices of such animal oils and fats as are competitive with them. Their relative importance, however, may be roughly indicated by stating that in the period 1927–9 the output of linseed oil formed over a quarter of the total British production of vegetable oils, that of cottonseed oil just under a quarter, that of palm-kernel oil just under a fifth, that of ground-nut oil a tenth and that of cocoanut oil about a thirteenth. The mills engaged in this trade are situated in the neighbourhood of the ports, chiefly in Hull, on the Merseyside and in London, and the majority of them are associated with, or controlled by, large firms which employ the vegetable oils along with various animal oils and fats in the manufacture of soap and of margarine and other edible fats. These are the most important products of vegetable oil, although large markets are found in the paint, varnish and linoleum trades. After the oil has been extracted or expressed from the seeds and nuts, the residual material is used for the production of cake, meal and cubes for feeding livestock;

and so agriculture, particularly the dairy industry, provides an important market for the oil-millers. The various types of vegetable oil and oil cake are, in fact, joint products of the milling processes. Since the proportions of cake and oil yielded vary according to the type of raw materials used, the relative amount of each class of seed and nuts employed by the millers is affected also by relative movements in the demand for cake and oil. Many of the firms in the trade are concerned, in addition to their other business, with the refining of vegetable oils, chiefly palm oil and cocoanut oil, imported in a crude state.

INDUSTRIAL DEVELOPMENT BEFORE THE DEPRESSION. Between the outbreak of the Great War and the beginning of the depression in 1929 a considerable expansion took place in the industry, and the reports of the Censuses of Production indicate that the output of unrefined oil nearly doubled between 1907 and 1924. Practically all this growth took place during the war itself and can be attributed partly to the increase in the demand for margarine and partly to the large reduction in Continental exports both of margarine and oil. When foreign competition was renewed, however, the British oil-milling industry found difficulty in maintaining its enlarged output, and the trend of production was downwards between 1924 and 1929, while retained imports increased substantially and exports declined. Nevertheless the British output remained much greater than in pre-war times, and for this the larger demand from the soap and margarine trades, particularly the latter, was mainly responsible. The increased demand for vegetable oils is closely associated with an important change in the class of materials used by the British industry. In 1913 the oil-millers were mainly interested in the production of cake and meal, and they concentrated, therefore, on working up such seeds and nuts as had a low oil content. With the growth in the demand for vegetable oils in the period during and after the war, however, they began to make a much greater use than formerly of materials with a high oil content.[1] Consequently we find that, while the imports of linseed and cottonseed (from which the bulk of the oil was made in 1913)

[1] Imperial Economic Committee, *Survey of Oilseeds and Vegetable Oils*, Vol. III, page 116.

changed very little, a large expansion took place in the imports of ground nuts, copra, palm kernels and soya beans, especially of the last two. Before the war British requirements of oils made from these materials were satisfied largely by purchases from abroad. Another reason for the change in the type of seeds and nuts used is to be found by examining the cake market. In pre-war times British farmers preferred to use linseed cake and cotton-seed cake and were prejudiced against palm-kernel and other types. It would appear that some of this prejudice was later overcome.

In spite of the improvement that had taken place since 1913 in the competitive position of the British millers, the net imports of vegetable oils just before the depression were equivalent to over half the British production. Retained imports of cake were also substantial, and thus the industry was still meeting with keen competition from abroad in the home market. The chief type of oil imported was palm oil, which is produced only in the countries growing the raw materials, mainly West Africa, the Dutch East Indies and British Malaya[1]; but considerable quantities of linseed, soya bean and cocoanut oils were also imported from the Continent, Japan and elsewhere. The export of British oils amounted in quantity to only half the retained imports, and the exports of home-produced cake were relatively small. The foreign trade in the two main products of vegetable oil (margarine and soap) is shown in Tables IX and X of the Appendix.

THE EFFECTS OF THE DEPRESSION TO SEPTEMBER, 1931. The depression with its attendant disturbances of international trading and financial relationships created serious difficulties for the industry, engaged as it was in supplying a highly competitive market and dependent for its materials on agricultural industries in many different foreign and Empire countries. The depression in British agriculture reduced the sales of cake and meal, and the

[1] Up to ten years ago Africa provided practically all the palm oil used in Great Britain and other manufacturing countries. But since then, while the exports from Africa have increased at a very slow rate, there has been a tremendous development of output in the Dutch East Indies and British Malaya. Production in these countries has shown a particularly rapid growth since 1929, and in 1933 their exports together were nearly three-fifths of the African exports.

trade in these products as well as the markets among the chief oil-consuming industries was badly damaged by a number of special causes which will presently be examined. In the first part of the depression, from the autumn of 1929 until the abandonment of the gold standard by Great Britain in September, 1931, the oil-milling trade suffered to a steadily increasing extent from the successful competition of foreign countries both in the home and in the foreign markets. Although the home demand for oils was reduced by the depression, the pre-slump volume of net imports was practically maintained in 1930 and the first nine months of 1931; while the exports of British-produced oils amounted in 1930 to only 68 per cent and in 1931 to only 61 per cent of the 1929 volume. Foreign competition was particularly keen in linseed oil, the imports of which rose from 21,000 tons in 1928 and 29,000 tons in 1929 to 41,000 tons in 1930. In consequence, the estimated production of British oils declined by about one-sixth. Exports of cake and meal fell in about the same degree as those of oil, and imports were also reduced, though not to the same extent as exports.

The most striking effect of the first two years of the depression, however, was not so much on output and foreign trade as on prices. From the beginning of 1930 until September, 1931, raw material prices fell rapidly and steeply. The average monthly prices of Plate linseed to London fell from £17 17s. 6d. a ton in January, 1930, to £7 17s. 6d. in September, 1931; black Egyptian cotton seed fell from £8 2s. 6d. to £5 16s. 3d., and Singapore copra from £22 8s. 9d. to £11 17s. 6d. during the same period. Oil prices fell even faster. The average monthly prices of London spot linseed oil (naked) fell from 44s. 7½d. a cwt. in January, 1930, to 15s. 4½d. in September, 1931, and the prices of other oils and of cake followed the same course, although the decline was less in other cases than in that of linseed oil, which was affected by two exceptionally large harvests in the Argentine.

These movements of prices can be accounted for, in part, by the same causes as those affecting the prices of other agricultural products and of manufactures directly dependent on agricultural raw materials; but the decline in this industry was accentuated

by special factors. In the first place, the depression led to a fall in the prices of many finished products which are substitutes for certain of the commodities manufactured from vegetable oil. The home market for soap, it is true, was not seriously damaged, although the export trade was substantially diminished. But the demand for vegetable oil from the other chief customer-trade, margarine and edible fats manufacture, was greatly reduced as a result of the fall in the price of butter and lard. Imports of butter rose from 6·4 million cwt. in 1929 to 8·1 million cwt. in 1931. This tendency for butter to displace margarine has persisted up to the present time, and its effects are well illustrated by the fact that the estimated annual consumption of margarine per head of the British population fell from 13·2 lb. in 1928 to 8·4 lb. in 1933.[1] The by-products of the oil mills were injured for similar reasons; for the huge grain stocks that accumulated after 1929 made available cheap supplies of coarse grains for cattle feeding. The resort to these alternative foods helped to reduce still further the demand for oil-cakes which, in any case, would have suffered from the deep depression in agriculture. Further, the successful competition of substitutes, which the circumstances of the depression stimulated, directly affected the production of the various types of oils themselves, as well as the trades that use oil for the manufacture of finished products, and there was a displacement of home-produced oils by imported products of a type which are not produced by the seed-crushing industry. Thus, the retained imports of palm oil were scarcely diminished by the depression, in spite of the decline in the total home demand for vegetable oils. But the main damage inflicted on the British oil-milling trade came from the huge increase in whale-oil production. The world output of whale-oil began to expand after 1907, when the Hardening Process was introduced which greatly reduced its cost of production. In the post-war period the development was remarkable. From 79,000 tons in 1921 output rose to 314,000 tons in 1929, and although prices fell steeply in this period, it would seem that owing to corresponding reductions in costs the output was sold at a profit. In the course of the next two years output was actually

[1] *The Economist*, 5th May, 1934, page 987.

doubled,[1] and the result was that prices fell from between £25 and £28 a ton in 1929 to between £10 to £15 a ton in 1931. This oil could be substituted for vegetable oil in the manufacture of many finished products, and imports increased from 59,000 tons in 1928 and 67,000 tons in 1929 to 112,000 tons in 1931. Imports of other animal and fish oil and fats also increased during this period, and these afforded an important contributory cause of the steep fall in the prices and output of British-produced vegetable oils.

FROM SEPTEMBER, 1931, TO THE END OF 1933. Immediately after the abandonment of the gold standard in 1931 there was a rise in the sterling prices both of seeds and oil, although world prices continued their downward course. Towards the end of the year British prices again fell slightly, and in 1932 prices fluctuated with movements in the exchange, falling with the partial recovery of sterling in the Spring and rising as the exchange moved downwards in the latter half of the year. On the whole, sterling prices in 1932 were above the level of those of January-September, 1931, but well below those of 1930. This applies to cake as well as to oil prices.

There can be no doubt that the abandonment of the gold standard gave a stimulus to the British industry. In spite of the persistence of many of those adverse influences on demand that have been described—the decline in margarine consumption and the substitution of cheap grains for feeding cake—the output of vegetable oils rose substantially in the later months of 1931 and in 1932. The 1932 production was about 17 per cent greater than that of 1930, not far short of the 1929 output and slightly above that of 1928. The recovery was due primarily to the stronger competitive position of the British mills in relation to their chief Continental rivals. It is true that the export trade in oils continued to fall steadily; but the reduction in oil imports was much greater. In 1929 the volume of retained oil imports was equal to nearly three-fifths of the British output; in 1930 it amounted to more than two-thirds, but in 1932 to only just over two-fifths of the British output. Imports of cake and meal also declined considerably in 1932, while exports increased. It is

[1] The world production in 1931 amounted to 614,000 tons.

significant that the drop in oil imports took place in those products which were most directly competitive with the oils produced by the British mills, namely, linseed, ground-nut, cotton-seed and cocoanut oils, and which were obtained mainly from Continental countries. Imports of palm oil, on the other hand, were maintained almost at their pre-depression volume.

To the assistance afforded by the depreciated exchange there was added in March, 1932, the protection of the new import duties, imposed on foreign as distinct from Empire products. Under the Import Duties Act a duty of 10 per cent *ad valorem* was placed on imports not only of castor, linseed, cocoanut, ground-nut, rape and sesamum oil, but also of certain animal fats and oils that are competitive with the products of the seed-crushers, such as whale-oil and unrefined tallow.[1] Although at the same time a 10 per cent *ad valorem* duty was placed on the import from foreign countries of certain raw materials used in the mills, notably ground-nuts and copra, there is no doubt that on balance the new duties were of considerable assistance to the industry in securing for it a larger share of the home trade. Another important cause of the recovery in output in 1932 was the decline in the import of animal oils and fats. The import of whale-oil alone fell by nearly half. This reduction was partly due to the new import duties, but was associated mainly with the decline in the world production of whale-oil. The huge output of 1931 had left large stocks on the hands both of the whaling companies and of the combine that dealt with them, and prices had fallen below the cost of production. Consequently, in 1932 the Norwegian whalers decided not to fish, and the world output fell from 614,000 tons in 1931 to 153,000 tons in the next year. The reduction enabled the stocks to be absorbed by the autumn of 1932 and prices recovered towards the end of the year. Although the vegetable-oil market was still affected during much of the year by the presence of whale-oil stocks, yet undoubtedly the restrictive policy of the whaling companies and the buying combine was of considerable advantage to the millers. Thus, the improvement in 1932, in the face of a continued decline in the demand for oil for edible fat manufacture, may be attributed

[1] A similar duty was placed on imports of foreign oil-cake also.

mainly to the reduced imports from the Continent as a result of the depreciation of sterling and the new import duties, and, in a less degree, to the falling off in imports of whale oil. One other factor must be referred to. A marked feature of this year was the decline in margarine imports. These had been falling steadily for many years along with the general decline in the home demand. They had diminished from over 1,000,000 cwt. before the depression to under 700,000 cwt. in 1931. But in 1932 they fell to under 100,000 cwt. It may well be, then, that a large part of the decline in the British demand for margarine was borne by foreign manufacturers in this year, and this, of course, would help to counteract the unfavourable influence on the British oil-milling trade of the steep decline in consumption.

The recovery was not maintained during 1933. The sterling and gold prices of all the important raw materials, with the exception of linseed, fell in the course of the year to a lower level than had yet been reached. The decline was particularly great in the case of cottonseed because of a heavy Egyptian crop. The prices of the vegetable oils themselves, again with the exception of linseed oil, followed the same course. Linseed and linseed oil rose in price mainly owing to the small Argentine crop which succeeded two good harvests; but the British prices of these goods were also affected by the imposition of new protective duties. By the Ottawa Agreements an import duty of 10 per cent *ad valorem* was placed on foreign linseed from 1st January, 1933, and this, together with the short Argentine crop, resulted in such a marked diversion of trade that in 1933 linseed imports from India actually exceeded those from the Argentine, formerly by far the most important source of supply. It is claimed by some millers that this duty had a damaging effect on their trade, and the chief firm of linseed-oil producers claims that it added £80,000 a year to its costs.[1] The existing duties on other foreign raw materials were maintained as a result of the Ottawa Agreements, and, in compensation, the Government from January, 1933, replaced the 10 per cent duty on vegetable oils by a 15 per cent duty. On representations from the milling trade additional protection was given, from 2nd May, 1933, by the substitution

[1] *The Economist*, 31st March, 1934, page 711.

of a specific duty of £3 10s. a ton on linseed oil for the *ad valorem* duty[1]; but millers declare that even this does not compensate them for the damage caused by the linseed duty. However, largely as a result of the duties, imports of vegetable oils declined still further in 1933 and amounted to only three-fifths of those of 1929. As was to be expected, the decline in the import of linseed oil was particularly great. But this strengthening of the competitive position of the British mills in the home market was insufficient to enable them to maintain the recovery in their trade that they had experienced in 1932. The output fell below that of the previous two years, though it was still above that of 1930. The decline can be attributed almost entirely to the fall in the production of linseed oil, which, in turn, was due to the rise in the price of linseed for the reasons already mentioned. Exports of British oil were lower than in any of the previous years and amounted to little over one-third of the 1929 figures. Exports of cake and meal were also much reduced. Under the Ottawa Agreements certain preferences were given by the Dominions and by India to the British trades producing vegetable oil and oil products; but these are said to have given very little assistance to the British mills.

The failure of the British oil-millers to share in the recovery that affected many other British industries during 1933 was certainly due in some measure to the further encroachment of substitutes on the demand for vegetable-oil products. In spite of the raising of the 10 per cent duty on foreign butter, imposed by the Import Duties Act of 1932, to 15 per cent in January, 1933, imports of butter and lard increased substantially during this year, and the prices, even of foreign butter, declined still further. This cheap butter and lard displaced margarine, and the fall in demand could not, in this year, be borne by a reduction of imports, which had already been reduced to an insignificant quantity. In the same way, the large quantities of cheap grains still available prevented any considerable improvement in the demand for cake. There were other adverse factors also. The competition of

[1] Additional Import Duties (No. 6) Order, 27th April, 1933. Subsequently, Orders were issued providing for drawbacks on exports of linseed oil and certain products of linseed oil.

whale oil, from which the trade had been relieved in some degree during 1932, was renewed in 1933 when the restriction scheme was modified, and world output rose to 420,000 tons. Imports of whale and fish oil into Great Britain rose from 84,000 tons in 1932 to 127,000 in 1933, not far short of the 1931 amount. At the same time there was a substantial increase in imports of palm oil, which fell steeply in price. Finally, there was the influence of the increased restrictions placed by Governments on international trade. The most obvious damage suffered by the British millers in this connection came from the duty on foreign linseed, as already described. But, indirectly, their markets and the prices of their products were much disturbed by the new trading regulations of Continental Governments. Those imposed by Germany in March, 1933, are especially worthy of notice, since they provided for a 50 per cent reduction in the quantity of margarine to be produced in the country and for a similar reduction in imports of edible vegetable oils. Further, drastic restrictions were placed during the year on imports of oil-cake into several Continental countries, and this, by intensifying the competition of exporting countries in British market, brought down the price of cake here. Governmental interference has a particularly disturbing effect on prices in this industry, because of the different conditions governing the two markets for its joint products. Thus, the restrictions on cake imports just referred to raised the price and output of cake in the countries that imposed the restrictions; but this resulted in a fall in the price at which the millers in those countries could dispose of their oil. Finally, as might be expected from the importance of the United States' market for vegetable and animal oils and fats, the fluctuations of the dollar-exchange and of American prices during 1933 were responsible for corresponding price movements in Great Britain.

CONCLUSION. This brief survey indicates that the output of the oil-milling trade reached its lowest point in the first two years of the depression, and that even during that period production was less seriously affected than that of most of the greater British industries. The recovery after September, 1931, was due mainly to the fact that, as a trade catering mainly for the home market

and subject to considerable foreign competition in that market, oil-milling benefited, temporarily at any rate, from the protection afforded by the depreciation of sterling and the new tariff; for the drop in imports both of oil and of oil products more than counterbalanced the continued decline in the export trade. But it would seem that, since the recovery was not maintained in 1933, by that year the reduction of imports was providing an insufficient stimulus to output, and that the successful competition of substitutes, to which the products of the industry have shown themselves extremely susceptible since 1929, was exerting the stronger influence. The encroachment of substitutes on its markets has clearly been one of the leading causes of the depression in oil-milling, and it is likely to be one of the chief dangers of the future. Movements in the prices both of the raw materials and of vegetable oils will necessarily be associated very closely with the trend of prices for animal and fish oils, palm oil, butter and lard. Throughout the depression trading conditions in the industry have been much disturbed, largely because of the close relations which the industry has, both on its raw-material side and on its marketing side, with agriculture. Striking variations in harvests and in supplies have induced violent price fluctuations which have been accentuated since the abandonment of the gold standard. These fluctuations have been imposed on a steeply falling trend which, in the case of most products, continued until the end of 1933.

APPENDIX

TABLE I

BRITISH PRODUCTION OF VEGETABLE OILS, OIL-CAKES AND CERTAIN VEGETABLE OIL PRODUCTS, ACCORDING TO THE CENSUSES OF PRODUCTION

	1907	1924	1930
Vegetable Oils (Unrefined), in thousand tons	250	484	331
Oil-cake and Meal, in thousand tons . .	1146	1455	1226
Soap, in thousand cwt.	7440	8860	8773
Margarine, in thousand cwt. . . .	816	3664	4033

TABLE II

BRITISH PRODUCTION OF VEGETABLE OILS ESTIMATED FROM THE NET IMPORTS OF SEEDS, NUTS AND KERNELS[1]

(In thousand tons)

1924	519	1927	362	1930	346
1925	482	1928	401	1931	388
1926	405	1929	414	1932	404
				1933	373

TABLE III

RETAINED IMPORTS OF VEGETABLE OILS INTO THE UNITED KINGDOM

(In thousand tons)

1927	225	1929	242	1931	205
1928	208	1930	232	1932	171
				1933	148

TABLE IV

EXPORTS OF VEGETABLE OILS (PRODUCE OF THE UNITED KINGDOM)

(In thousand tons)

1927	107	1929	114	1931	69
1928	113	1930	78	1932	52
				1933	44

TABLE V

IMPORTS OF OIL CAKE AND MEAL INTO THE UNITED KINGDOM[2]

(In thousand tons)

1927	496	1929	494	1931	459
1928	382	1930	455	1932	423
				1933	385

TABLE VI

EXPORTS OF OIL CAKE AND MEAL (PRODUCE OF THE UNITED KINGDOM)

(In thousand tons)

1927	197	1929	105	1931	91
1928	128	1930	75	1932	87
				1933	43

[1] *The Economist*, Annual Commercial History and Review.

[2] Re-exports negligible.

TABLE VII

IMPORTS OF WHALE OIL AND FISH OIL INTO THE UNITED KINGDOM[1]

(In thousand tons)

	1927	1928	1929	1930	1931	1932	1933
Whale Oil . .	53	59	67	84	112	60	113
Fish Oil . . .	10	15	14	18	19	24	14
TOTAL . .	63	74	81	102	131	84	127

TABLE VIII

IMPORTS OF PALM OIL (UNREFINED)[2]

(In thousand tons)

1927 . .	57·6	1929 . .	59·8	1931 . .	48·7
1928 . .	52·0	1930 . .	50·1	1932 . .	50·9
				1933 . .	64·2

TABLE IX

BRITISH FOREIGN TRADE IN SOAP

(In thousand cwt.)

	1927	1928	1929	1930	1931	1932	1933
Imports .	291	281	301	347	354	156	189
Exports .	1,638	1,651	1,523	1,302	1,129	1,031	964

TABLE X

IMPORTS OF BUTTER AND MARGARINE INTO THE UNITED KINGDOM

(In thousand cwt.)

	1927	1928	1929	1930	1931	1932	1933
Butter .	5,826	6,120	6,406	6,828	8,071	8,449	8,835
Margarine .	1,333	1,185	1,103	846	693	92	33

[1] Re-exports negligible.
[2] Re-exports very small.

PRICES

For information concerning price movements, see the *Annual Market Reviews*, mentioned below.

ACTS OF PARLIAMENT, ETC., AFFECTING THE INDUSTRY

Since 1929 the only important Acts of Parliament, Statutory Orders, etc., directly affecting the British oil-milling trade have been those imposing the new import duties. The scope and effects of these duties have been described in the text.

SOURCES

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THE GLASS INDUSTRY

By J. N. REEDMAN, M.COM., PH.D.

THE GLASS INDUSTRY IN THE CRISIS

1. THE GENERAL SITUATION BEFORE 1929. Apart from the general influences due to the disturbances of the Great War, to which in more or less degree all industries have been subject, the Glass Industry has at the same time experienced the later stages of a revolution in the methods of manufacture. In the space of the last thirty or forty years automatic and semi-automatic machines have displaced highly-skilled methods as old as the industry itself. All branches of the industry have been affected by this momentous development which has meant the displacement (in the case of bottles, cheap blown ware, pressed ware and drawn sheet glass practically complete displacement) of skilled labour, and an increase in productive capacity to an almost incredible extent.[1] The war gave a great impetus to this development in all glass manufacturing countries, some of which increased their capacity beyond normal peace time requirements. In this country a Department of Glass Technology was founded at Sheffield University in 1915 and the Society of Glass Technology was instituted in 1917. A vast amount of research has been carried out by these institutions ever since and at the same time the application of machine methods has carried the revolution in manufacture a stage further.

The results of these changes have been heavy unemployment and fierce competition in all sections of the industry. These effects would have been even more marked but for the development of new uses for certain types of glassware. Thus the motor industry has absorbed large quantities of plate and sheet glass; the post-war building boom increased the demand for building glass; a greater use has been made of glass containers for milk, prepared foods, battery jars, etc.; the development of electric lighting has increased the demand for illuminating ware. These

[1] See *Productivity and Labour in Glass Industry*. (U.S.A. Bureau of Labour, 1924.)

somewhat fortuitous circumstances have done something to mitigate the effect of rapid mechanization of production, but even so the productive capacity of the industry has never been taxed to the full and over-production, either actual or potential, has been a feature of all branches of the industry.

In Great Britain the industry has suffered from the further handicap of an overvalued pound subsequent on the return to the gold standard in 1925, and from the depreciated currencies of some of the chief competitors. Both in the home market and abroad, therefore, the glass manufacturers of this country have met with very severe competition, and worked under depressed conditions. This is reflected in the relatively high percentage of unemployment, particularly in the glass bottle industry. In this section in 1928 the average percentage of insured workers unemployed varied from 15·8 per cent in the first quarter to 21·7 per cent in the third quarter of the year. In the same year the comparable figures for all industries are 9·5 per cent and 11·3 per cent. The percentage in all other branches of glass manufacture considered together is rather less, varying between 8·7 per cent in the quarter of lowest unemployment and 10·4 per cent in the quarter of highest unemployment in 1928. The glass bottle industry, which is the most considerable branch of glass making in this country, depends to a greater extent on the home market than do the other sections of the industry, and the rather depressed state of the industry prior to 1929 was less due to foreign competition (in 1930 the value of retained imports of glass bottles was less than in 1924) than to the capacity of the home industry to over-produce, coincident with a general slackness of British industry. The Midland manufacturers of domestic and fancy glassware were subject to severe competition both in the home and in foreign markets. As English blown ware is almost entirely of the best qualities and relatively expensive, it does not directly enter into competition with the very cheap machine-made ware which is imported in large quantities from Germany and Czechoslovakia. To a certain extent, however, cheap glasses may have been accepted as a substitute for better qualities, and the tremendous output of cheap glassware under modern methods has undoubtedly developed its uses to the detriment of all but the

manufacturers of expensive glasses catering for a special market. In the market for moderately priced wares of good quality the English manufacturer, labouring under the difficulties imposed by the currency situation, with high relative costs of production and with general industrial depression at home, was frequently undersold both at home and abroad. The pressed glass industry mainly localized on the North-east coast in Durham and Northumberland, was in a similar position, but was rather more directly affected by the competition of cheap imported ware. The manufacture of plate and sheet glass in Great Britain is controlled by a single firm operating chiefly at St. Helens and Birmingham. The majority of such glass used in this country is imported from Belgium. Naturally the demand for sheet glass is greatly affected by the state of the building industry, though in recent years the motor industry has offered an expanding market for plate glass and for drawn sheet glass of high quality for the manufacture of special safety glasses as "Triplex," "Splintex," etc. Also the development in this country of "Vita" glass, which passes the ultra violet rays of sunlight, has tended to maintain the activity of the window glass industry. Previous to 1929 this branch of glass manufacture was less depressed than most others in this country.

2. The Glass Industry and the Depression 1929 and After. The difficulties of the English glass manufacturers were inevitably increased by the world depression which first began to be felt in 1929. Imports of glassware fell from £5·6 million in 1929 to £5·3 million in 1930 and £4·9 million in 1931; exports fell from £2·2 million in 1929 to £1·8 million and £1·3 million in 1931. The percentage of insured workers unemployed increased from 9·1 per cent in the last quarter of 1929 to 12·3 per cent in the first quarter of 1930 and 14·6 per cent in the third quarter for all glass workers with the exception of glass bottle makers and makers of scientific glass. Among glass bottle workers the percentage of unemployed insured workers increased from 14·2 per cent in the last quarter of 1929 to 20·4 per cent in the first quarter of 1930 and 24·4 per cent in the third quarter of that year. Some branches of the industry were more seriously affected than others. The plate and sheet glass manufacturers faced a big drop

in demand owing to the decline in building activity, and according to the Census of Production taken in 1924 and again in 1930 the total value of production was estimated at nearly £1,000,000 less in the latter year. Similarly the estimated value of domestic and fancy glassware (including pressed ware) produced in this country was considerably less in 1930 than in 1924, despite the fact that average prices in 1930 were estimated at 107 per cent of 1924 prices. The effect of world depression was probably more serious for the Midland section of the industry than for other sections as the position was vulnerable both in the home and foreign markets, the demand for the products being for the most part elastic and sensitive to general conditions. Thus the recorded exports of domestic and fancy glass fell from £380,890 in 1929 to £284,053 in 1930 and £161,290 in 1931. As the total value of all kinds of glass exported fell from £2,268,169 in 1929 to £1,367,218, that is by about 40 per cent, it will be seen that the decline in exports of domestic and fancy glass was much more serious, relatively, than that of other types of glass. In the same period the recorded value of imports of domestic and fancy glass declined only slightly from £2 million to £1·7 million. In the home market, therefore, the competition of foreign glass was scarcely reduced despite the decline in total demand which accompanied the depression.

In the bottle glass industry somewhat different conditions have prevailed. The export trade is of less relative importance. On the other hand, glass bottle manufacturers have not had a monopoly of the home market and a considerable quantity of bottles and jars are regularly imported. Nevertheless, the output of bottles and jars in this country considerably increased between 1924 and 1930 according to the Census of Production taken in each of those years, for in the latter year the value of production was estimated at £7·2 million as against £6·2 million in 1924, although in the meantime prices had fallen by about 17 per cent. But this increase in output was secured without any very marked increase in the number of persons employed, since in recent years the capacity of the industry has been considerably greater than the demands made upon it. On the whole, therefore, largely due to extended uses of bottles and jars for containers, the situation

of the industry had improved just prior to the world depression. The effects of depression were less severe in the glass bottle industry than in other branches of glass manufacture, since once the use of bottles and jars as containers is established the demand for them, derived from the products for which they are used, is determined by the demand for such products, which being for the most part foodstuffs and beverages, have a fairly inelastic demand. Thus it is that both in this country and America the manufacture of bottles and jars was less severely hit by the depression than many other industries. The high percentage of unemployment experienced by this section of glassmaking for some years even before the depression is explained by the tremendous increase in the productive capacity of the industry due to the development of mechanical methods. The recorded values neither of imports nor of exports of bottles and jars declined to the same relative extent as other articles of glassware taken separately or together between 1929 and 1930.

Effect of Suspension of the Gold Standard and Fiscal Changes. The suspension of the gold standard in September, 1931, and the consequent fall in the external value of the pound sterling, was of great advantage to an industry which does not supply the whole of the home market and at the same time has a considerable export trade. From the nature of the case all sections of the industry had something to gain from a depreciation of the sterling exchange. The Midland manufacturers of domestic and fancy glass, however, facing strong competition in the home market and dependent also to a considerable extent on export trade, probably had most to gain. The effect of the depreciation of sterling on the export trade was considerably diminished by the increasing intensity of the depression in 1932 and by currency restrictions and devaluations. Thus exports of fancy and domestic glass continued to decline in 1932, but increased in 1933 to £168,431 which compares favourably with the figure of £161,290 of 1931. The exports of plate and sheet glass, however, progressively declined from over £1·2 million in 1929 to £669,572 in 1933. But this is to be expected in view of the decline in building activity during depression. The exports of bottles and jars increased slightly in 1932 over the figures of 1930 and 1931,

but fell away again in 1933. For all kinds of glassware, however, the decline in exports was progressive from 1929, when the figure was £2·2 million, to 1933 when the figure was £1·2 million. The greatest decline, however, occurred in the early phases of the depression between 1929 and 1931, and it is reasonable to assume that the depreciation of sterling did something to arrest the downward trend.

It is impossible to form any measurable idea of the effect of the suspension of the gold standard on the imports of glassware if only for the reason that import duties were almost immediately imposed. Under the Abnormal Importations (Customs Duties) Act of 20th November, 1931, two important sections of the industry received very substantial protection. A 50 per cent *ad valorem* duty was imposed on all imported domestic glassware including cooking utensils, tableware, toilet and ornamental ware. This applied equally to the Midland manufacturers of blown ware and to the manufacturers of pressed ware. A similar duty of 50 per cent was imposed on imports of bottles and jars, excluding scientific glass already subject to a safeguarding duty of 33⅓ per cent. This legislation coupled with the depreciation of sterling gave the two most important branches of the industry in this country a protection of between 70 and 100 per cent for the six months during which these special duties were in force. Under the Import Duties Act, 1932, all sections of the glass industry came in for the protection offered by the general *ad valorem* duty of 10 per cent on all imports of manufactured goods. Applications from the industry for additional duties were considered by the Import Duties Advisory Committee early in 1934, and on the recommendations of the Committee additional protection was given to all branches of glass manufacture. The total protection amounts now, therefore, to *ad valorem* duties on imports varying from 15 to 30 per cent.

It is too early to know the effect of these recently imposed duties, but since the two most important sections of the industry had a period of very high protection owing to the measures taken to deal with the financial crisis of 1931, and all sections have benefited from the 10 per cent general *ad valorem* duty, there is no doubt that the industry as a whole has improved its position.

Probably the Midland manufacturers of domestic and fancy glassware had the most to gain from protection from foreign competition. As they are for the most part private companies and family concerns it is impossible to obtain any measurable notion of the improvement in their position, but that they are more prosperous now than they have been for some time past is undoubted. This is evidenced in the formation recently of a Midland section of the Society of Glass Technology. The bottle making section likewise is more prosperous than formerly, and the improved prospects are reflected in the tendency, since 1931, for the stock exchange quotations of the shares of some of the chief concerns to rise.

The Advisory Committee on Import Duties stated in their report in March, 1934, that the duties hitherto in force had been effective and that imports as a whole were still substantial. Also, they said, the productive capacity of the industry in this country was not fully used. This raises two very important points which go far to explain the success of protection from the point of view of the glass industry. In the first place the industry is a small one which does not supply the whole of the home market and therefore stands to gain considerably from any protection against imports. In the second place the productive capacity of the glass industry, as we have already indicated, is not fully employed, not only in this country, but in the world as a whole, due very largely to the technical advances which have revolutionized the industry. However, in so far as local conditions permit, in these circumstances, of an increase in output, there is the pleasant harvest of increasing returns to be reaped by the fortunate manufacturers.

3. Legislation Sources, etc.

LEGISLATION

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Pottery Gazette and Glass Trades Review. (Monthly Journal.)
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Journal of Society of Glass Technology. (Quarterly, chiefly technical.)

OFFICIAL SOCIETIES

Department Glass Technology, University of Sheffield.
Society of Glass Technology, Headquarters, Sheffield.
Secretary, Professor W. E. S. Turner.
Glass Manufacturers' Federation, 13 Southampton Street, London.
Secretary, G. Marchand.

THE POTTERY INDUSTRY

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A RECORD OF EVENTS FOR THE POTTERY INDUSTRY

THE Chronicler of an Industry like that of Pottery, not classified as a major industry, is handicapped because of the scant[1] reference to the industry in national or international[2] inquiries into industry in general and major industries in particular.

Except for one pre-war survey[3] by the American Government, we have to rely on local sources[4] supplemented by scattered references to the industry in Government publications, and the Press[5]

[1] There is no special volume of the Committee on Industry and Trade (1926–1929) dealing with the Pottery Industry. There is only a casual reference in—

Volume 1926. Survey of Industrial Relations.
Volume 1927. Survey of Overseas Markets.
Volume 1927. Factors in Industrial and Commercial Efficiency.
Volume 1928. Further Factors in Industrial and Commercial Efficiency

The Pottery Industry is conspicuous by its absence from the Index in the Balfour Final Report (1929).

[2] There was no special study of the Pottery Industry by the Economic and Financial Section of the League of Nations in its documentation to the International Economic Conference, 1927. One searches in vain for any reference to the Pottery Industry in any Report of the League of Nations till 1932. (Review of World Production.)

[3] The Pottery Industry (Report on the Cost of Production in the Earthenware and China Industries of U.S.A., England, Germany, and Austria) Misc. Series No. 21. Department of Commerce, 1915, Part 2, pages 389–470, is a valuable bird's eye view of the Pottery Industry on the eve of the Great War.

[4] (*a*) The Publications of the National Council of the Pottery Industry (established 1918), mainly statistical, deal with wages, unemployment, exports and imports, conditions of work, new mechanical devices, etc.

(*b*) Two handbooks, published in 1921 and 1928, on "North Staffordshire, Its Trade and Commerce," by the N. Staffs. Chamber of Commerce and in their monthly bulletin.

(*c*) Government publications: Reports of the Chief Inspector of Factories and Workshops; Reports of Customs and Excise; Statistical Reports, etc., contain scattered reference to the Pottery Industry. Reports of Dept. of Overseas Trade on Economic and Financial Conditions in various countries deal with market conditions for British pottery. Hansard Parliamentary Debates are useful sometimes.

[5] The local paper, *The Evening Sentinel*, records local industrial changes. The files of the *Weekly Sentinel* also record industrial features. Scattered references to the Pottery Industry are found in the *Manchester Guardian Commercial* and *The Times* Trade and Engineering Supplement. The various Annual Reviews of the *Guardian* deal with features of the Pottery Industry.

generally and especially the Pottery Trade Papers[1] and Annuals.[2]

With this cursory glance at the chief sources of information, we may proceed to review—

I. The situation before 1929.

II. The situation since 1929 to 1934.

III. A bibliography where events recorded in I and II may be studied in greater detail.

I. The Situation in the Pottery Industry Before 1929

Our study can be split conveniently into quinquennial periods—

(*a*) 1914–1919.

(*b*) 1919–1924.

(*c*) 1924–1929.

(*a*) 1914–1919—Outbreak of War to Eve of Peace. Pottery being mainly a peace product[3] the industry gave generously of its man power. In April, 1917, a Pottery Trade Joint Standing Committee was formed for the selection of men to meet the imperative call of the country. The selections were made so judiciously as to avert any stoppage and to the satisfaction of the operatives. The military authorities, whenever a call for men was made, relied entirely upon it and obtained the men they required without a single pottery works in the country being shut down.

In 1918 the N.C.P.I. elected the members of the Joint Standing Committee *en bloc* as its Demobilization Committee.

Both masters and men took advantage of war time conditions to strengthen their organizations. The whole of the Manufacturers' Associations united to form the British Pottery Manufacturers' Federation, after the formation[4] of the National Council

[1] *The Pottery Gazette and Glass Trade Review* is the chief trade paper. It appears monthly and is a valuable medium. See also *Pottery and Glass Record.*

[2] *Cox's Potteries Annual*, 1923–1926. It appeared in 1928 for the last time as the *Sentinel Year Book* of the Potteries and North Staffordshire. *The Ceramic Society Transactions* contain technical data, although sometimes historical and economic data are recorded, as in the special *Wedgwood Bicentenary Volumes*, 1930.

[3] With the exceptions of electrical fittings for munitions and pottery ware for canteens and camps.

[4] *North Staffordshire—Its Trade and Commerce*, 1921, pages 66–69.

of the Pottery Industry—the first Whitley Joint Industrial Council in Great Britain—in January, 1918. The divers Potters' Unions amalgamated to form the present National Society of Pottery Workers[1] in 1919.

The Federation of Manufacturers, through its Federated Associations was able to control trade so as to raise and maintain prices[2] effectively. This upward trend of pottery prices, coupled with the amicable atmosphere provided by the setting up of the National Council of the Pottery Industry,[3] enabled the Trade Union to bargain for higher wages and better conditions for its workpeople. Many agreements[4] relating to wages, etc., were signed from 1915 to 1919. The hated "Good from Oven" clause was substituted by the-more-satisfactory-to-the-worker clause[5] "Good from Hand" on 25th March, 1919. From May, 1915, to 25th September, 1919, wages[6] increased, war bonuses were obtained (on pre-war time-and-piece rates) of 7½ per cent in 1915 increasing to 80 per cent to September, 1919. These applied to all workers (with slight variations to workers in the Sanitary Earthenware, Tiles and Sanitary Fireclay Sections).

In co-operation with the N.C.P.I., the Industrial Fatigue Research Board investigated[7] certain problems pertaining to the physiological suitability of certain processes for women, and also made two investigations[8] mainly confined to working conditions in potters' shops.

Reviewing this period from 1914–1919, the workers and employers emerged from it better organized and stronger economically than in pre-war days, when wages were in many cases far below Trade Board Standards and hours of work considerably above 47 hours per week.

[1] W. H. Warburton. *History of Trade Union Organization in Potteries*, Chap. XII.
[2] H.M.S.O. Profiteering Acts, 1919–20; Report on Pottery, 1921.
[3] *North Staffordshire—Its Trade and Commerce*, 1921, pages 67–69.
[4] *Handbook of Agreements* (N.S.P.W.). Published 1926.
[5] *Handbook of Agreements* (N.S.P.W.) Published 1926, page 11.
[6] *Op. cit.*, page 12, and W. H. Warburton, *History of Trade Union Organization in Potteries*, pages 227–228.
[7] *Op. cit.*, pages 174–175, and W. H. Warburton, *Op. cit.*, pages 224–228.
[8] See Reports on the Industrial Fatigue Research Board, No. 18. *Two Investigations in Potters' Shops* (Vernon & Bedford), 1922, and Medical Research Council Report 27, dated 1924; *Results of Investigation into Certain Industries*, pages 11–12.

(*b*) 1919–1924—POST-WAR EARLY BOOM PERIOD. Now men and masters felt free from the restrictions imposed by war conditions. The discharged pottery soldiers returned, hoping to share in the good things peace promised them. The world, depleted of crockery, tiles and other pottery commodities, cried out for new supplies. With the increased demand the manufacturers granted increases in wages to several grades in 1920, with some minor adjustments in 1921. The Miners' National Strike of 1921, because of the dependence of the pottery industry on the local supplies of coal, gravely affected the factories. It cost the Potters' Union £60,000 in unemployment benefit. The manufacturers pressed for a reduction of 20 per cent, quoting the example of U.S.A. potters as a precedent. They used their power mercifully, and took 10 per cent in 1921, and 10 per cent in 1922.

Prices dropped in 1923 and the manufacturers pressed for a further drop of 20 per cent in wages. The operatives pressed for an increase in wages. A compromise was reached and a reduction of 10 per cent was agreed to before a stoppage took place.

Early in 1924 the employers kept pressing for a further reduction of 10 per cent. The men resisted. When a deadlock was reached the National Council of the Pottery Industry intervened to arrive at an amicable settlement. (See next section.)

It is easy enough to blame the whole of the state of the pottery industry from 1921 to 1924 on the Miners' National Strike, but this is a superficial view. The attack on the miners' wages was only symptomatic of a general attack on war bonuses and inflated wage standards, while the drop in prices was a natural reaction from the artificially inflated war prices, which the manufacturers had helped to maintain by their Federation. War-weary countries with depleted resources were unable to purchase British goods and some were fostering (under their post-war nationalism) pottery factories of their own.

(*c*) 1924–1929—POST-WAR LATER BOOM PERIOD. The reference of the wage dispute in 1924 to a Special Committee of Workers' and Employers' Representatives of the National Council of the Pottery Industry, together with three Honorary

Members, led to a prolonged investigation.[1] It led *not* to a reduction but to a general advance of 2½ per cent to the operatives in General Earthenware, Fine China, Jet and Rockingham, and 5 per cent to operatives in Sanitary Earthenware, Fireclay and Tiles. Certain workers, excepted from the above award, were granted up to 7½ per cent increases on their wages.

The investigation disclosed exceedingly low wages in some grades at some factories, and a great difference in profits, some firms making great profits and others very little. More than anything it disclosed that, in the opinion of the arbitrators, the reductions of 1923 were not justified. Hence the award of advances in wages. The advance was not commensurate with the increase in the cost of living index numbers of the Government. The general effect of the award was to consolidate the minimum wage standard initiated in 1911 and made more general in 1920 and extended further in 1924.

It brought peace to the industry for some years, and increased the prestige of the National Council of the Pottery Industry and the National Society of Pottery Workers, locally and nationally.

In 1925 the National Council of the Pottery Industry submitted evidence[2] to the Balfour Committee. This year was an auspicious one, for the potteries centre of Stoke-on-Trent became a City, with its own Lord Mayor, a status conferred by His Majesty the King on his visit to the district.

Year	Value of Pottery Exported (000's omitted)
	£
1921	6389
1922	5801
1923	6394
1924	6557
1925	6410
1926	5687
1927	6295

[1] *Staffordshire Sentinel*, 18th July, 1924, and *Handbook of Agreements* (N.S.P.W.) Published 1926; and *Cox's Annual*, 1925, pages 81–83.

[2] See Memorandum by N.C.P.I. and *Survey of Industrial Relations*, 1926, pages 44–46, 171–195. (H.M.S.O.)

In 1926 the Balfour Committee had to study the state of Overseas Markets, and in 1927 published its Report.[1]

Simultaneously there was an international inquiry at Geneva into what was termed by them—"this World Depression."

Some of the Potteries factories specializing in the export market did well despite the world depression, as the Overseas Export figures of Pottery wares given in table on page 411 show.

The Longton factories suffered in the Home Market from what they alleged was the competition of German and Czechoslovakian Ceramic Wares.

Under the Safeguarding of Industries Act[2] the British Pottery Manufacturers' Federation made an application for the Imposition of a Duty on Tableware of Translucent Pottery, i.e. on behalf of the English China Manufacturers' Association, representing 43 firms, mainly round about Longton.

The Report[3] of the Committee was presented in April, 1927. The Committee was impressed by the Statistics of the Federation (see following table). In the opinion of the applicants, the value of the Imports revealed by the statistics did not truly represent the position, it being strongly maintained that a high percentage of china was included in the import figures for General Earthenware. Official Statistics subsequent to the Safeguarding Order appear to support this contention.

Year	Pottery Workers Employed in Longton Factories	Value of Imports of China and Porcelain From	
		Germany	Czechoslovakia
		£	£
1920	8301	2429	—
1921	8280	5075	533
1922	7920	6124	1910
1923	7594	5823	1754
1924	7405	4090	2025

Their award[4] granted a specific duty on Tableware of 28s. per cwt., approximately equal to an *ad valorem* duty of 33⅓ per cent,

[1] *Survey of Overseas Markets*, 1927. (H.M.S.O.)
[2] See H.M.S.O. White Paper, Cmd. 2327 (1925).
[3] See H.M.S.O. White Paper, Cmd. 2838 (1927).
[4] See special comment of *Staffordshire Sentinel*, 11th April, 1927.

to operate for five years from 19th April, 1927, until 18th April, 1932. Soon after, the National Council of the Pottery Industry applied to the Board of Trade, under the Merchandise Marks Act, 1926, for certain classes of Imported Ceramic Wares. The request was granted.[1]

The Census of Production 1924 had disclosed that the total value of the output of the Pottery Industry was £17,500,000, and since that date there was evidence that foreign competition was entering the home market and overseas. From 1928 to 1929 there was current a specific to cure all industrial depression—Rationalization. Blessed by Geneva experts and urged by National leaders to apply Rationalization to Industry, it is little wonder that the N.C.P.I. discussed it in 1928. They came to no definite decision, beyond inquiring into its possibilities.

Lectures were given to the Ceramic Society[2] and later some enterprising and daring individual launched on a fusion[3] of firms—a venture which brought disaster in its train. The discussion of Rationalization did wake up certain firms to the more scientific application of mechanical devices to certain pottery processes, and in 1929, the N.C.P.I. discussed the question of standardization of sizes. More factories installed gas-firing plants for gloss ware firing, and some actually installed electric kilns for on-glaze enamel firing. Mechanization proceeded faster in the pottery production of tiles and electrical porcelain accessories, than in the other sections of the industry. At the close of this period the pottery industry, having safeguarded itself from attack from Germany and Czechoslovakia, was attacked by highly rationalized Japan. But this is a post-1929 development.

II. The Situation in the Pottery Industry After 1929 until 1934

On 1st February, 1929, as the result of a Home Office[4] Inquiry, a Compensation Scheme for Silicosis became operative, a tribute

[1] Report of Standing Committee respecting Pottery Cmd. 3028 (1928); also *North Staffordshire—Its Trade and Commerce*, 1928.

[2] *Pottery Gazette*, 2nd December, 1929, pages 1915–25.

[3] *Pottery Gazette*, 1st August, 1932, pages 1019–1024 and 1028, and January, 1933, page 47.

[4] Report of the Departmental Committee on Compensation for Silicosis dealing with the Pottery Industry, 1928. (H.O.)

to the watchfulness and initiative of the N.S.P.W. The health conditions of the workers in the industry has formed one of the chief interests of the N.C.P.I. from its inception. The condition of the pottery market went from bad to worse. Factories were thrown idle, despite any relief granted to factories from the De-rating Act.

During 1930 and 1931, the N.C.P.I. Statistical Committee made a special study of the related problems of increasing unemployment and the shrinking markets. The writer[1] prepared a memorandum, which was presented to the Empire Marketing Board, with a view of obtaining some publicity in the various parts of the Empire.

The following table of unemployment percentages for the pottery industry in North Staffordshire only, speaks for itself—

Year	1924	1925	1926	1927	1928	1929	1930
June . .	10·5	17·5	58·6	13·9	16·5	13·8	26·3
December .	19·3	19·3	19·8	21·0	16·9	17·2	41·9

In March, 1931, when the average for the country was 21·3 per cent, for the pottery industry it had reached the alarming figure of 38·8 per cent. In 1931 for quarter ending March, the value of exports had declined to £711,521 as compared with the March quarter 1930, of £1,285,547 in value.

The statistics of the Census of Production confirmed this general decline. The total value of china declined to £1,715,000 in 1930, as compared with £1,995,000 in 1924, while the total value of ceramic products declined from £15,961,000 in 1924 to £12,600,000 in 1930.

Publicity was given to Pottery in the Home Market by means of the Wedgwood Bicentenary Pageant at Stoke-on-Trent in 1930, and by B.B.C. Talks on the Pottery Industry in 1930, 1931, and 1932. Manufacturers spent time and money at the British Industries Fair. Some factories, however, had to close down, despite the relief and protection afforded by the Tariff

[1] As a Co-opted Member.

Duties and the Abnormal Duty of 50 per cent excluding china, which operated from November, 1931 to 25th April, 1932, when it was reduced[1] to 20 per cent on all pottery. The inevitable demand from the employers came for a reduction in wages. The workers would not agree; the matter went to arbitration. The Honorary Members of the N.C.P.I. agreed to be arbitrators, and the award[2] was a cut of 10 per cent, with some exceptions affecting the wages of women workers. The wages have been stabilized at this point annually since 1931.

To-day, except for occasional and seasonal spurts, the pottery industry generally[3] is depressed. The Census of 1929 taken by the Federation shows 45,583 operatives employed by Federated firms. In April, 1929, the total unemployed in the Potteries was 6,936. This year (on 9th March) this unemployed total had reached 11,192. This total has been steadily declining since the peak figure of 20,702 in June, 1932.

The manufacturers complain about Japanese competition in the Overseas Markets[4] and there is evidence that the Japanese are encroaching on the Home Market, as the following table shows—

JAPAN'S EXPORTS OF EARTHENWARE INTO UNITED KINGDOM

Year	Value
	£
1929	35,174
1930	44,898
1931	42,353
1932	51,092
1933	108,103

The question of foreign competition is being carefully watched by the pottery organizations.

The Federation of Manufacturers is co-operating with the

[1] A further alteration took place on 5th May, 1933, when it was increased to 30 per cent on all glazed tiles and sanitary ware, and to 25 per cent per cwt. on domestic china and earthenware.

[2] See *Evening Sentinel*, 29th March, 1931.

[3] The exceptions are tiles, sanitary ware, and electrical accessories.

[4] Especially in South Africa, Australia, India and New Zealand; see Parliamentary Reports, "Hansard."

National Society of Pottery Workers, through the initiative of the N.C.P.I. to induce all pottery operatives to join their Union. The Federation recently issued a manifesto. It took the form of a full-page declaration in the *Evening Sentinel* (as under), appended to which appeared a list of signatories of 130 firms (representative of many more factories than that number)—"We, the undersigned, being Members of the above Federation, desire to *urge all Operatives to become Members of the National Society of Pottery Workers* or other Unions affiliated to the National Council of the Pottery Industry. By our own membership in the British Pottery Manufacturers' Federation we show our belief in co-operation. We are convinced that it is essential to the well-being of all engaged in the industry that both Employers and Operatives should be in their respective organizations."

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CONSUMERS' TRADES AND SERVICES

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CONSUMERS' TRADES AND SERVICES

1. The Consumers' Services Generally

The activities here classed as consumers' services include the following trades, as defined by the Ministry of Labour: the distributive trades; commerce, banking, insurance and finance; entertainments and sports; hotels, public houses, restaurants, club service, etc.; and laundries, dyeing and dry cleaning. There are groups outside these categories, such as those rendering professional and semi-professional services, but the insured persons are often not a representative proportion of the total number of persons engaged in them, whilst of the uninsured we have no satisfactory information. The paucity of the data relating to these trades is out of all proportion to their importance as far as the volume of employment is concerned. In 1931 the distributive trades alone employed more insured persons than coal mining and building put together; there were only 25,000 less insured persons working in laundries, dyeing, dry cleaning, etc., than in shipbuilding and ship repairing, and nearly as many as in electrical, marine and constructional engineering put together. Hotels, boarding houses, restaurants, etc., employed 80,000 more persons than all the "metal industries," and even "entertainments and sports" accounted for as many as the chemical and electrical industries. The lack of adequate data on sales, production, etc., makes the whole of this miscellaneous group of trades very difficult to deal with. Apart from a few very general considerations, their position can be understood only by piecing together as much as possible of the record of the separate trades.

On the group of trades as a whole, the depression has not greatly interrupted the trend of development since the war, and the cause of this is well known. (*a*) Before 1929. Throughout the post-war period there was a steady growth in the proportion of the working population engaged in these "consumers' services."

Rising productivity and technical progress made it possible to release resources from the staple trades and to transfer them to the consumers' trades. During this period there was a steady increase of "transfer-expenditure" by the state, for the purpose of maintaining the standard of consumption of the working classes, or special groups of them; old age pensions were extended, widows' and orphans' pensions established, and the unemployment insurance acts extended to bring new classes of contributors and beneficiaries. (*b*) After 1929. An outstanding feature of the depression has been the maintenance of standards of consumption. There has been an influx of people into these trades and services during a period of widespread unemployment, the expansion taking place in all districts, sheltered and distressed alike. The relative buoyancy of these trades can be traced to the fact that the total number of persons *in employment* in the insured trades has increased during the period, that wages have been relatively stable, and that the incomes of those unemployed, and others wholly or partly dependent on social service payments have not, despite various economies, been greatly reduced in the aggregate. After the onset of the depression the different rates at which prices changed, cuts in wages and salaries, in unemployment benefit, and the loss of income from overseas investments presumably affected the distribution of income between the different classes in the community, and the direction of spending. The economy campaign also temporarily influenced people's attitude, but the consequences of all these adjustments are not traceable in the available statistics.

The changes in the number of insured persons employed, i.e. the numbers of insured persons minus the numbers recorded as unemployed, are shown in the table on page 423.

The rate of development is rather greater in the four relatively prosperous districts, London, North East, South West and Midlands, than in the four depressed ones. This contrast applies also to unemployment. At the beginning of the period in most of the trades there is little difference in the percentage of unemployment in the two groups of districts, although in one or two trades they are on a slightly higher level in the depressed areas. By 1933, in all the trades the percentage of unemployment had

CONSUMERS' TRADES AND SERVICES

NUMBERS OF INSURED WORKERS IN EMPLOYMENT, 1926–33
(000's omitted)

	London	S.E.	S.W.	Midlands	N.E.	N.W.	Scotland	Wales	Total
1926–28 . .	606	217	190	175	242	288	225	70	2,013
29 . .	649	234	208	189	259	303	233	74	2,149
30 . .	658	242	210	190	261	310	235	74	2,180
31 . .	676	253	220	198	273	313	239	78	2,250
32 . .	693	262	224	208	280	325	246	79	2,317
33 . .	705	265	232	217	296	330	254	84	2,393
Percentage increase over Average 1926–28 . .	+ 16	+ 27	+ 22	+ 24	+ 12	+ 15	+ 13	+ 20	+ 19

doubled in the country as a whole, but there was a sharp difference between the different districts. Whereas the unemployment percentages were closely similar in 1926–8, they are widely different in 1933. The proportional rise is much greater in the distressed areas. These facts are evident from the tables relating to the separate trades.

2. THE DISTRIBUTIVE TRADES

BEFORE 1929. Before the depression there were 1,458,000 persons in employment in the distributive trades, while the total number insured, including those out of work as well as those in employment, was about 13 per cent of the total insured population. There is no adequate information as to the total volume of retail sales; but Mr. L. P. Dobbs estimated that in 1930 it was about £1,650,000, while Mr. L. E. Neal took the figure of £1,750,000. The calculations are a little hazardous and the figure depends to some extent on definitions. This volume of trade was distributed (1) between different and often competing lines of goods, and (2) between different and rival forms of distribution. In the first case, figures which group all retail trade and all shops into a single class conceal the really vital link between the shops and the producing industries, for the shops have to be regarded as the terminal points for the different

industries. The second distinction is no less important. The trade was shared between the single "family shop," the chain stores, the co-operative stores, and the departmental stores. Various estimates have been made of the relative importance of these forms of trading.

	Per Cent of Total Trade, 1932	
	Mr. Dobbs	Mr. Neal
Unit Shops . . .	61	50–60
Chain Stores . . .	18	15–20
Co-operative Stores. .	12	12–15
Departmental Stores .	9	7½

In many lines of trade all four of these forms were competing, but even so the broad classification does not exhaust the complications found in practice. There were both unit and chain stores which specialized in a single and very narrow range of products, while there were "chains" of departmental stores, one organization controlling a number of these, catering for different classes of trade and customers of different income levels. And in addition there were the fixed price bazaars. Some of these had advantages in range of stock, some in standardization, some in financial resources and others again in mass buying, or personal knowledge of a limited clientele. And it cannot be said that before the depression, competitive forces had delimited stable boundaries between the various forms.

Manufacturers pursued different lines of policy. Some of them fixed the retail price of the goods and multiplied the number of selling points; and by guaranteeing the retailer against price cutting pushed competition into indirect forms, such as delivery, calling for orders and other services rendered to the consumer. Others sold through a limited number of agencies and some endeavoured to go over the head of the wholesaler and deal directly with the retailer.

After 1929. The most striking features of the depression have

been the expansion of employment, the relative stability of retail prices, and the volume of discussion on distributive costs.

(*a*) EMPLOYMENT AND UNEMPLOYMENT. The personnel employed in the distributive trades was growing before the depression, both in absolute numbers and as a proportion of the total insured population. The insured workers in the trade were 13 per cent of the whole insured population in 1927, and reached 15·2 per cent in 1932. The percentage rate of growth, though not uniform, was substantial in all areas, varying from 22 per cent in London to 34 per cent in Wales.

The numbers actually in employment, i.e. numbers of insured workers less the numbers unemployed, also show marked increases in all areas—

DISTRIBUTIVE TRADES

NUMBERS OF INSURED WORKERS IN EMPLOYMENT, 1926–33
(000's omitted)

	London	S.E.	S.W.	Midlands	N.E.	N.W.	Scotland	Wales	Total
1926–28 . .	389	154	142	138	189	220	173	53	1,458
29 . .	416	166	155	150	203	231	182	56	1,559
30 . .	426	173	156	152	204	239	184	56	1,590
31 . .	436	181	163	158	214	241	187	58	1,638
32 . .	450	190	166	166	220	250	192	60	1,694
33 . .	453	197	171	172	231	253	196	64	1,737
Percentage increase over Average, 1926–28. .	+ 16	+ 28	+ 21	+ 24	+ 22	+ 15	+ 14	+ 22	+ 19

The real difference between the areas emerges only in the figures of unemployment. As compared with 1926–8, these rise in all districts, but whereas in the southern parts of England the percentage of unemployment is between 6 per cent and 10 per cent, in the North, Welsh and Scottish areas it rises to between 13 per cent and 18 per cent.

(*b*) THE NUMBER OF DISTRIBUTIVE AGENCIES. These figures, even the heavy ones of the northern areas, are still light as compared with the basic trades making producers' goods and the maintenance of consumption which they seem to imply raises

DISTRIBUTIVE TRADES

PERCENTAGE UNEMPLOYED

	London	S.E.	S.W.	Midlands	N.E.	N.W.	Scotland	Wales	Total
1926–28 . .	4·1	2·6	4·2	5·1	7·1	6·6	6·7	7·9	5·4
29 . .	3·4	2·5	4·2	5·3	7·0	7·8	6·8	8·6	5·4
30 . .	5·4	3·9	5·9	7·8	10·8	12·1	10·2	12·3	8·3
31 . .	8·1	5·8	7·7	10·5	13·4	15·5	13·8	15·4	11·0
32 . .	9·0	7·3	9·0	10.0	14·1	15·1	14·3	17·3	11·6
33 . .	8·3	6·4	8·7	9·5	13·5	14·8	14·8	17·6	11·3

the question as to how far they are an accurate index of the condition of the distributive trades. They are consistent both with an increase in the aggregate turnover of consumers' goods and with an increase in the number of distributive agencies along with a decline in average turnover.

First, during the whole post-war period, including the years of depression, these industries have been changing their product in the sense that the retailer is rendering a greater number and variety of services to the consumers; part of the increase of personnel must be put down to this cause. Secondly, the development of high-pressure selling methods has led to an increasing number of sales weeks and special attractions for which temporary staff is engaged. There thus seems to be an increase in the number of more casual and seasonal workers in certain branches, particularly in drapery and allied trades. Thirdly, some changes of structure affect these statistics. If a "Company" absorbs a family business, and either replaces or retains the owner as a salaried manager the numbers of insured persons will rise, though there may be no increase in the numbers employed. It is believed that the rapid development of local and regional chains is having an influence of this kind. Such factors as these are sufficient to account for some expansion in these trades, On the other hand, it is often said that there has been an increase in the number of distributive agencies and a decline of the work done by each unit; for example, some manufacturers, recognizing that all goods are competitive in the sense

that they represent competing claims on the consumer's income, follow the practice of maintaining as large a number of selling points as possible. The decentralization of towns has in some cases led to the opening of new shops on the outer margin, and many of these are known to be of the family type. The matter is not one upon which it is easy to present facts. The census of 1921 gave the number of buildings classed as shops, but this information is not given for 1931. Perhaps a distinction must be drawn between the older staple trades, and shops dealing in the new luxuries; thus in Southampton, between 1901 and 1928, drapers', chemists', butchers' and bakers' shops had increased less rapidly than the number of families, but the number of confectioners, grocers and tobacconists much faster. A similar inquiry showed that in a number of towns diverse in character[1] between 1901 and 1931, the number of chemists, butchers, bakers and grocers had grown less rapidly than the number of families to be served, while tobacconists', confectioners', newsagents' shops had increased faster. In these towns, the total number of shops of all kinds per 1000 families had decreased between the two dates, and have barely kept pace with the growth of population.

Another possible source of information is in the local authorities' records of shop property assessed for rating. A special inquiry was made but not all authorities have kept detailed records of the various classes of property. The information received shows the character of possible changes, but it is insufficient to afford any basis of generalization. Between 1929 and 1933, the number of shops in Manchester had increased by 2·9 per cent, in Birmingham by 1·6 per cent, in Newcastle by 2·4 per cent, whilst in Rotherham they declined by 1·4 per cent. But in Cardiff, Leeds and Bolton—none of them "sheltered"—there were said to be in the same period, increases of 8·5 per cent, 11·2 per cent and 12·1 per cent.

The information is fragmentary but such as it is it does not bear out the suggestion that there has been a general increase in the number of shops with a decreased efficiency of each unit.

[1] Southampton, Portsmouth, Bournemouth, Reading, Cardiff, Bolton, Middlesbrough, York, Norwich and Poole.

It appears probable that in the staple branches of retailing, trade is being conducted by a relatively smaller number of units.

(*c*) PRICES. The movements of wholesale and retail prices, as shown by the Board of Trade wholesale price index and the Ministry of Labour Cost of Living Index, were as follows—

WHOLESALE AND RETAIL PRICES, 1928–32
1924 = 100

	1928	1929	1930	1931	1932	1933	1934
Wholesale Price Index (Board of Trade) .	84·4	82·1	71·9	62·7	61·1	60·7	62·7
Cost of Living—							
Food only . .	92·3	90·6	85·3	77·1	74·1	70·6	71·8
All Items . .	94·9	93·7	90·3	84·3	82·3	80·0	80·6

The significance of the lag in the fall of retail prices is too well known to need comment, nor is it surprising that, as in previous depressions, the widening gap between wholesale and retail prices should have excited the hostile comment of certain classes of producers. In the distributive trades themselves, many costs have been relatively stable, while others, such as those incurred in the development of delivery, seem to have increased. It is possible also that price maintenance practices have contributed in some degree to the relative stability of the retail price level, and, by depriving the retailer of the freedom to adjust prices, have also provided an additional stimulus to the development of various additional services to the consumer, such as delivery, which have tended to maintain and increase the volume of employment in these occupations.

The retail prices of certain commodities have been raised by various forms of state action, e.g. by seasonal import duties on certain vegetables, etc., by the operation of marketing boards, as in the case of milk, or by means of restricted imports, as in the case of bacon and meat.

For some commodities there are striking regional differences in the gap between wholesale and retail prices. The following table shows the price of wheat, flour and bread in four centres in March, 1934.

PRICE OF WHEAT, WHEAT OFFALS, FLOUR AND BREAD
DURING THE FIRST WEEK IN MARCH, 1934, IN
PENCE PER 100 KILOGRAMMES

	London	Liverpool	Glasgow	Dublin
(*a*) Cost price (including delivery charges, etc.) of average of types of grains used in mill mixture . .	128·00	117·95	154·32	118·10
(*b*) Wholesale price of bran at mill . . .	118·10	138·25	134·48	106·28
(*c*) Wholesale price of middlings at mill .	115·15	138·89	130·07	94·49
(*d*) Cost price to baker (including delivery charges) of flour for common bread .	245·66	231·49	260·78	269·27
(*e*) Cost price to baker (including delivery charges) of flour for best quality bread .	278·73	264·55	302·67	278·73
(*f*) Retail price of ordinary quality bread.	385·81	385·81	330·69	468·48
(*g*) Retail price of best quality bread .	—	551·16	440·92	551·16

It is a curious fact that although Scottish millers always include a much larger proportion of Canadian wheat than English millers in their mill mix, and therefore have a much heavier financial outlay for the wheat, the price of bread is considerably lower in Glasgow than in either London or Liverpool.

(*d*) RETAIL SALES. For part of the period the course of sales is indicated by the Bank of England series. The general movement is shown by the following figures—

RETAIL SALES IN GREAT BRITAIN (At Selling Value)
COMPARISON WITH SAME PERIOD AND DATE OF
PREVIOUS YEAR. PERCENTAGE CHANGE

	1931	1932	1933	1934	1935
January .	—	− 5·6	− 6·4	+ 3·9	+ 4·2
March .	—	− 6·1	− 2·9	+ 5·7	+ 0·6
June . .	− 3·0	− 3·8	− 3·6	+ 2·0	—
September .	− 3·9	− 3·6	− 1·7	+ 4·1	—

The sample was not comparable enough to permit an index number to be made until recently, but on the whole from 1933 the index shows a slight change in an upward direction. Taking the average daily sales in 1933 as 100, the figures were 104 in November, 1933, 101 in January, 1934, 99, 103 and 97 in March, June and September respectively, and 105 in January, 1935.

The following figures show the changes in co-operative retail trade in England, Wales and Scotland for the period 1927–33. The divisions have been so arranged as to correspond approximately with the boundary between the north and Wales on the one hand and the south on the other, used in the Bank of England sales return.

CO-OPERATIVE SOCIETIES' RETAIL SALES

(Millon £'s)

	All Districts	South and London	North, Wales and Scotland
1927 . .	199·9	58·2	141·7
1928 . .	209·4	60·8	148·6
1929 . .	217·0	68·2	148·7
1930 . .	217·3	71·3	146·0
1931 . .	207·8	69·6	138·2
1932 . .	201·2	67·2	134·0
1933 . .	197·3	67·9	129·4

There was a rise in total sales each year from 1927–30, but in the latter year the industrial areas show a decline while the aggregate sales in the south have risen. The membership of the societies was growing during the period, and part of the increase may be due to inroads being made into the sales of private traders; but the same general fact emerges if we compare sales per member.

These figures of sales have to be read in the light of price changes. The cost of living index number for food only fell from 157 in 1928, 145 in 1930 and 126 in 1932. The index for all items, including food, fell from 166 in 1928 to 144 in 1932.

CO-OPERATIVE SOCIETIES' SALES PER MEMBER

	England, Wales and Scotland	South and London	North, Wales and Scotland
	£	£	£
1927 . .	35·8	31·5	37·8
1928 . .	35·9	30·2	38·3
1929 . .	35·2	31·1	37·2
1930 . .	33·9	31·1	35·9
1931 . .	31·6	28·3	34·2
1932 . .	29·8	26·1	32·3

NOTE. In this table "South" includes Southern, South-west, and Midland Districts.

(*e*) SECURITY PRICES. The relative profitability of retail distribution is shown by the movement of security prices. The course of these may be illustrated by the following figures courteously provided by the London-Cambridge Economic Service. The first table shows the percentages for food and drapery, etc., groups, and the second the actual quotations for the separate firms. It is not, of course, claimed that these quotations are strictly representative of the two groups in question, or that they give more than a general impression. It will be observed that the "food" group includes manufacturers of food.

GROUP PERCENTAGES

AS CALCULATED IN COMPILATION OF THE LONDON AND CAMBRIDGE ECONOMIC SERVICE INDEX OF INDUSTRIALS

Percentages of 1924 Averages

		Industrials	Food	Drapery, Stores, etc.
1931 . .	Jan.	96	78·7	103·1
	July	86	76·6	98·1
1932 . .	Jan.	82	76·8	93·8
	July	83	80·2	105·9
1933 . .	Jan.	95	89·3	116·5
	July	108	93·4	128·9
1934 . .	Jan.	118	90·8	142·3
	July	124	87·8	158·3

QUOTATIONS FROM *THE FINANCIAL TIMES*, 15TH OF MONTH

FOOD	1927		1928		1929		1930		1931		1932		1933		1934	
	Jan.	July	Jan.	July	Jan.	July	Jan.	July	Jan.	July	Jan.	July	Jan.	July	Jan.	July
Tate & Lyle . .	£1 1/16	£1 1/8	£1 1/8	£1 5/32	£1 7/32	£1 5/32 *a*	37/–	39/3	35/7½	36/6	40/6	46/–	57/–	77/6	84/9	90/3
Crosse & Blackwell .	3/3	3/9	6/7½	5/–	5/3	3/7½	2/6	2/1½	1/9	7½d.	7½d.	9d.	6d.	6d.	9d.	7½d.
Unilever (Lever Bros.)	9/9	10/3	11/4½	12/1½	12/10½	12/1½	3⅜ *b*	2 25/32	£1⅛	£1⅛	£1⅛	£1 11/32	32/–	28/6	24/9	22/3
Spillers . . .	16/6	18/3	20/6	25/6	27/– *c*	25/–	26/3	18/9	23/6	27/9	34/6	39/–	47/–	54/6	59/6	56/10½
Bovril Dfd. . .	45/–	39/–	45/–	42/–	43/3	40/6	37/3	39/–	35/6	36/3	32/6	25/6	27/–	25/3	26/4½	17/–
Home & Colonial .	73/6	78/–	£4 1/16	78/6	£4½	16/9 *d*	16/1½	15/–	14/7½	14/6	13/3	16/9	16/10½	14/6	10/4½	9/6
Lyons . . .	3 15/16	4 1/16	4 5/16	4⅞	5 1/16	5⅛	4⅞	4 15/16	4⅛	4 19/32	4¼	5⅛	5⅛	6 5/16	6½	6 13/16
A.B.C. . . .	29/3	28/6	30/3	31/–	25/6	24/9	17/6	18/–	18/–	19/6	18/9	20/–	23/6	26/3	25/3	26/9
Maypole Dfd. . .	5/4½	6/1½	6/–	5/4½	5/4½	5/4½	5/6	5/7½	4/4½	4/6	3/9	4/1½	3/4½	3/9	3/–	2/10½
Spiers & Ponds .	27/–	25/3	29/3	31/9	23/–	19/6	18/1½	16/6	15/–	13/6	9/6	7/6	6/3	6/6	7/–	7/7½
United Dairies .	31/3	30/–	33/9	33/3	34/9	34/–	31/3	31/4½	31/7½	33/9	36/1½	42/3	52/–	55/3	57/–	60/3

NOTES

(*a*) Tate & Lyle. Change from preferred to ordinary. (November, 1929, £1⅛ Pfd. December, 1929, 42/– Ord.)
(*b*) Amalgamation of Lever Bros. and Margarine Union. (December, 1929, 13/4½ for 5/– Pfd. Ord. Lever. January, 1930, 3⅜ £1 Ord. Unilever.)
(*c*) Bovril. Important "rights" to holders in January, 1929.
(*d*) Home & Colonial new capital issued in 1929. (February, 1929, old £1 shares at 4 9/16. March, 1929, new 4/– shares at 16/10½.)

DRAPERY, STORES ETC.	1927		1928		1929		1930		1931		1932		1933		1934	
	Jan.	July	Jan.	July	Jan.	July	Jan.	July	Jan.	July	Jan.	July	Jan.	July	Jan.	July
Barker, J. . .	66/9	68/-	70/-	£3 19/32	£3 3/8	66/9	66/-	59/9	55/7½	58/1½	£2 3/4	70/-	76/6	£3 1/2	£3 5/8	69/3
Debenhams Secs. .	—	—	—	15/6	15/6	12/1½	9/7½	8/-	5/4½	2/6	2/-	1/3	1/4½	1/9	9d.	ceased
Harrods . . .	61/6	61/6	74/6	73/-	77/-	75/7½	74/3	60/-	56/3	55/7½	47/-	54/6	59/-	64/-	73/-	73/6
Whiteleys . .	£4 1/2	£3 7/16	74/3	£3 9/16	£3 1/2	£3 3/8	£3	£2 15/32	£2 9/32	£1 7/8	£1 19/32	£2 1/8	£2 11/32	£2 1/8	£2 7/32	£2 1/8
Marks & Spencer .	—	—	—	—	4 15/16	5 1/4	5 9/16	5 1/8	4 1/2	4 3/16	4 9/16	4 25/32	6 3/16	7 15/16	9 1/16	11 7/16
Gordon Hotels .	12/6	16/3	14/3	13/-	14/3	12/-	15/-	12/10½	9/9	7/1½	3/3	3/9	2/6	3/-	3/3	3/-
Maple . . .	36/3	36/9	45/6	46/6	47/6	42/-	40/-	28/9	25/7½	20/-	£85/32	£89/32	17/-	21/6	28/9	23/9
Boots Pure Drug .	6 7/16	6 1/4	6 1/8	6 1/2	6 7/8	7 3/32	6 3/16	5 3/8	5 1/2	6	6 3/16	7	7 3/16	7 1/2	40/-*	40/6
Gamage . . .	20/6	17/-	17/3	17/6	14/3	14/6	15/-	11/9	10/3	5/7½	£3/16	£5/32	£11/32	£21/32	14/6	18/6

* 5/- Shares, previously £1.

(*f*) BANKRUPTCIES. The total number of bankruptcies in all the separable classes of retail trade in the Board of Trade returns increased from 2690 in 1927 to 3253 in 1932. The trades included in these figures are all the clothing trades, all the food and drink group, except maltsters, millers, etc., publicans, restaurants, wine, and spirit dealers, jewellers, fruit dealers, general merchants, iron and hardware dealers, ironmongers, motor and cycle dealers, wireless makers and dealers, coal and coke merchants, tobacconists and chemists. Taking the year 1927 as 100 the growth in succeeding years till 1932 is represented by the figures 101, 101, 102, 108, 110, 121. In some cases the figures for the separate trades were practically stationary and even declined, e.g. chemists and general merchants, whilst in others the rate of increase was substantial, e.g. wireless dealers, clothing trades, and in the combined group of publicans, restaurants, and wine and spirit dealers.

The total figures conceal the most interesting facts of the situation, those relating to the different areas. By the courtesy of the Board of Trade, details for two years 1928 and 1933, were made available for the separate court districts, and these were regrouped to correspond approximately with the Bank of England North-South sales boundary. (Scotland is not included.) The striking fact is that while the total number of bankruptcies in these retail trades have increased during the years of pressure, they decreased in the north and increased in the south and London; and this general difference appears even in those trades which at first sight seem to be exceptions, i.e. where the total number of bankruptcies have declined, for in these cases the increase in the number of failures in the south is more than offset by the decreased number in the north. It is an interesting result, but whether it means that the pressure of distress before the recession of 1929 had already weeded out the weak units in the north, while the relative prosperity of the south had permitted the growth of numbers of less sound businesses which were unable to withstand its cessation, a longer series of figures would be necessary to show.

(*g*) CONCLUSION. The history of the distributive trades since the onset of the depression has two aspects. First, the volume

of employment has expanded, and the volume of trade, prices and of profitability has been well maintained as compared with most branches of industrial production. This can be accounted for by the fact that the total number of persons in employment in all industries has not decreased, and that the standards of consumption of those not in work have been kept up by social service payments. The various forms of retailing have not shared this relative prosperity equally. Some of the multiple food shops have suffered a sharp decline of profits, and the co-operative societies in the depressed areas have also received a set-back. Some big concerns holding numerous drapery and departmental stores dealing with different grades of customers, and having but limited possibilities of securing economies by mass buying have also been hit. But fixed prices bazaar and certain developing lines of retailing have continued to make substantial profits.

The second feature of the distributive trades has been the increasing critical attention to the high level of costs. The results of government inquiries, from the Linlithgow Committee of 1923 to the Royal Commission on Food Prices of 1926, and the subsequent inquiries into special trades by the Ministry of Agriculture or the Reorganization Commissions established under the Agricultural Marketing Acts, have tended to dispel the notion that excessive *profits* are being made by retailers. Attention has therefore turned on to the level of costs, and their maintenance at a high level has been attributed both to the existence of trade combinations with a monopolistic control over their line of trade, and to "excessive competition." By "excessive competition" is sometimes meant the existence of a broad margin of producers who receive less than normal or no profits, and bankruptcies are taken as the index of it; sometimes it means that the facts indicate that there has been an inrush of new firms, in such a way that all firms are working profitably at less than full capacity, and so at an unduly high level of costs. In practice, there has been little state action on this aspect of the problem. Although agricultural investigation has for ten years been concerned with finding means of reducing costs of distribution, the actual action taken up to the present has been concerned mainly with the maintenance of the prices received by the producer. The discussion

has, however, influenced the retailing trades themselves, and the belief in the existence of excessive competition in either of the above senses has led to serious canvassing of schemes for licensing and restricting the number of shops, somewhat on the lines suggested by the Commission on the Registration of Shops in the Irish Free State.

3. Hotels, Restaurants, Public House and Club Service

These trades share with the other trades of the group common characteristics of a growth of the insured personnel in all districts, together with a heavy incidence of unemployment in the northern and industrial areas. The following figures bring out these facts.

HOTELS, PUBLIC HOUSES, RESTAURANTS AND CLUBS
NUMBER OF INSURED WORKERS IN EMPLOYMENT, 1926–33
(000's omitted)

	London	S.E.	S W.	Mid-lands	N.E.	N.W	Scot-land	Wales	Total
1926–28 . .	114	31	30	18	27	34	23	10	287
29 . .	125	35	31	19	29	36	23	11	309
30 . .	125	36	31	18	30	36	23	10	309
31 . .	130	36	34	19	31	36	24	11	321
32 . .	128	36	34	19	31	39	24	11	322
33 . .	135	39	35	21	33	41	26	12	342
Percentage increase over Average 1926–28. .	+ 18	+ 24	+ 27	+ 16	+ 24	+ 52	+ 10	+ 15	+ 19

PERCENTAGE UNEMPLOYED

	London	S.E.	S.W.	Mid-lands	N.E.	N.W.	Scot-land	Wales	Total
1926–28 . .	5·0	3·4	5·1	8·2	8·9	7·9	8·3	5·3	6·1
29 . .	4·3	3·3	4·9	9·4	9·3	9·8	9·2	7·3	6·3
30 . .	7·2	5·3	7·5	16·9	15·6	16·7	17·3	12·1	10·8
31 . .	11·9	8·7	10·3	21·7	20·3	22·9	21·1	18·1	15·2
32 . .	11·6	10·1	11·3	17·3	20·0	18·7	19·7	21·1	14·6
33 . .	10·5	8·0	10·4	15·8	17·5	17·6	18·5	19·9	13·2

On only one of the trades, that concerned with the distribution of intoxicating liquors, is there adequate information. The amounts of beer and spirits retained for home consumption during the period were as follows—

HOME CONSUMPTION OF BEER AND SPIRITS

	Beer Made, *less* Export	British Spirits retained for Home Consumption
	Gallons at 1055° per Head of the Population	Proof Gallons per 100 of the Population
Average: 1926–28 .	14·49	24·76
1929. .	14·99	24·00
1930. .	14·46	21·97
1931. .	12·55	20·46
1932. .	10·07	18·66
1933. .	10·88	18·90

The downward movement of consumption is due to the combination of adverse trade, reduced wages, "cuts" in social service payments and increased rate of taxation. The beer duty was raised from £5 to £5 3s. per standard barrel, and the customs duty raised accordingly, by the Finance Act of 1930. The Finance (No. 2) Act, 1931, raised the excise duty to £6 14s. per standard barrel, and the customs duty correspondingly.

Viewed as a retail trade, there have been some interesting developments in its organization. The figures below show the number of licences of different categories in England and Wales from 1927—

NUMBER OF LICENCES IN ENGLAND AND WALES, 1926 TO 1933

	On	Increase or Decrease	Registered Clubs	Increase or Decrease	Off Only
1926 . .	79,860		12,138		22,149
1927 . .	79,330	− 530	12,481	+ 345	22,174
1928 . .	78,803	− 500	12,775	+ 296	22,189
1929 . .	78,307	− 513	13,132	+ 357	22,171
1930 . .	77,821	− 486	13,526	+ 394	22,166
1931 . .	77,335	− 486	13,947	+ 321	22,125
1932 . .	76,886	− 449	14,377	+ 430	22,105
1933 . .	76,418	− 468	15,010	+ 633	22,055

If we leave out of account the small variations in off-licences, which remain at a stationary level, it will be seen that the decrease in the number of "selling points," occasioned by the suppression of redundant licences is being partly made up by the growth in the number of registered clubs. The development of working class clubs has been a significant feature of the present century, the percentage increase from 1905 to 1914 being 35 per cent as compared with 78·6 per cent from 1919 to 1929. This movement has continued during the depression. Some of these clubs are proprietary clubs, so that viewed as distributive agencies, one form of selling unit is being replaced by another.

There has been an important series of law cases affecting the catering trades. The proposed application of the Trades Boards Act to these trades was opposed in the courts by the representatives of the trades concerned. The various legal steps are indicated in the bibliography. Eventually the Minister made no order.

4. Laundries, Dyeing and Dry Cleaning

(*a*) The Development Before the Depression. The trend of development in these industries before the depression can be seen from the following facts. In 1907 the total value of laundry, dry cleaning, dyeing and other services, was £9,000,000, and this had risen to £21,000,000 in 1924, of which the great bulk, or £16,500,000 was laundry work. The net output per head of persons employed rose from £55 in 1907 to £136 in 1924. On the other hand between these two dates there was an actual decrease in the number of persons employed, from 127,000, to 118,000, though there were slightly more men employed as compared with 6000 fewer women. There was a decline in the number of juveniles of both sexes. These changes were due to the fall in the number of small hand laundries, and the increased use of mechanical power. The total capacity of engines increased by 17 per cent.

(*b*) Trend During the Depression. No census of production figures are available for 1930, but the information shows that while some of these tendencies have been accelerated others have been reversed. The Ministry of Labour figures do not distinguish

between those engaged in laundries and those engaged in dyeing and cleaning, but it is thought that about 25,000 of them are in the latter trade, and that by reason of extension of company control and concentration of output, these numbers may be stationary, if not declining. It follows from this and the table below that the numbers employed in laundries has increased by about 20 per cent in the period under review.

The increase has been fairly general in north and south, though the growth in Scotland has been less marked. The difference between depressed and sheltered areas is found, as with the other consumers' trades, not so much in the rate of growth of total personnel, as in the incidence of unemployment. This increased in all districts though it was relatively light, as post-war figures show, in southern and midland areas, but in the north-east, north-west Scotland the burden was twice as heavy as in more favoured areas.

This increase of personnel is thus a reversal of the trend in the first quarter of the century, and although no figures are available it is known that there has been a considerable increase in the use of machinery throughout the period. It would follow that output has been rising during the depression. This appears to be quite the contrary of the trades' previous experience of depressions, and appears to be largely due to the development of new classes of laundry service which are tapping a new market.

LAUNDRIES, DYEING AND DRY CLEANING

NUMBERS OF INSURED WORKERS IN EMPLOYMENT, 1926–33

	London	S.E.	S.W.	Mid-lands	N.E	N.W.	Scot-land	Wales	Total
1926–28 . .	42,800	18,500	11,100	8,000	10,500	13,200	13,200	2,300	119,600
29 . .	46,500	19,100	11,900	8,900	11,200	14,900	13,100	2,500	128,100
30 . .	46,700	19,900	12,300	9,000	11,600	15,700	13,200	2,400	130,800
31 . .	48,100	20,400	12,700	9,500	11,200	15,300	13,300	2,500	133,000
32 . .	47,800	20,800	12,900	10,000	11,800	15,200	13,500	2,300	134,300
33 . .	50,000	21,500	13,500	10,600	12,000	14,900	13,500	2,600	138,600
Percentage increase over Average 1926–28. .	+ 17	+ 16	+ 22	+ 33	+ 14	+ 13	+ 2	+ 13	+ 16

LAUNDRIES, DYEING AND DRY CLEANING

PERCENTAGE UNEMPLOYED

	London	S.E.	S.W.	Mid-lands	N.E.	N.W.	Scot-land	Wales	Total
1926–28 . .	3·4	2·1	3·4	4·0	4·4	4·9	4·8	3·9	3·6
29 . .	2·6	1·9	3·5	4·4	5·3	5·7	5·2	3·8	3·7
30 . .	3·9	2·8	5·2	8·1	8·3	11·3	9·8	7·2	6·3
31 . .	7·4	4·3	7·2	11·0	13·2	14·9	13·9	9·5	9·5
32 . .	7·8	4·3	6·7	7·7	10 2	11·1	10·9	11·2	8·2
33 . .	6·7	4·4	5·7	6·5	9·8	12·0	11·9	10·7	7·8

In 1924, nine-tenths of the work done was "fully finished"; since then there has been a great development of less finished and cheaper grades of work, machine iron work, and in the south of "damp wash" (i.e. work that is washed and hydroed only). Some of this development has been at the expense of fully finished work, but most—three-quarters is the "trade estimate"—is work which has hitherto been done in the home.

While no complete information is available, in some areas there has been a reduction of prices, and it may be hazarded that the aggregate value of work done has not increased quite so rapidly as the physical bulk handled.

The pre-depression tendencies with respect to the relative employment of men and women have continued during the depression. As judged by the number of insured persons there has in all districts been an increase in the number of men employed, the increase in 1933, as compared with 1926–8, varying from 14 per cent in Scotland to 57 per cent in the Midlands and 48 per cent in London. The lowest increase in England was 35 per cent in the south-western district. The pre-depression decline in women's employment has been replaced by an increase, but this has been at a much slower rate than in the case of men, the increase being in no district higher than 21 per cent.

There are still a large number of laundries, about 7000 according to trade figures, though 5000 of these are very small and open and close frequently. Two or three combines were floated during the years 1926–8.

Wages are subject to Trade Board regulations, and have remained unchanged during the period 1929–32.

5. Entertainments and Sports

As far as these trades are covered by unemployment insurance, it is a small though increasing one. Its insured workers were 0·6 per cent of the total insured population in 1927, and 0·8 per cent in 1932. All areas share in the increase, which varied between 50 per cent and 60 per cent in London and the southern areas, and 103 per cent in Scotland. As in the case of the other consumers' trades, unemployment increased in all areas, during the depression, but was heaviest in the distressed and industrial districts. In London the proportion unemployed varied from 1 in 10 to 1 in 5 of the insured population; in the other areas it reached 1 in 4.

ENTERTAINMENTS AND SPORTS

Numbers of Insured Workers in Employment, 1926–33

	London	S E.	S W.	Mid-lands	N.E.	N.W	Scot-land	Wales	Total
1926–28 . .	16,600	8,100	5,000	5,600	8,400	10,000	4,300	2,200	60,000
29 . .	17,900	8,600	5,700	6,300	9,300	10,500	4,700	2,300	65,300
30 . .	17,500	9,300	5,500	6,000	9,200	9,500	4,600	2,400	64,000
31 . .	20,100	9,800	5,700	6,800	10,600	11,100	5,500	2,900	72,500
32 . .	21,200	9,900	6,300	7,400	11,000	12,000	6,200	3,200	77,200
33 . .	23,100	11,700	7,200	8,100	12,000	12,700	7,300	3,400	85,500
Percentage increase over Average of 1926–28. .	+ 39	+ 45	+ 44	+ 45	+ 43	+ 27	+ 70	+ 55	+ 42

Percentage Unemployed

	London	S.E.	S.W.	Mid-lands	N.E.	N.W.	Scot-land	Wales	Total
1926–28 . .	8·9	4·3	7·8	9·1	11·6	8·7	12·0	10·1	9·1
29 . .	9·5	5·1	8·1	10·3	12·2	9·6	14·7	15·0	10·2
30 . .	13·7	8·6	13·9	17·8	20·2	20·7	22·6	20·4	16·7
31 . .	16·2	12·0	18·1	21·6	23·9	25·9	27·2	23·0	20·5
32 . .	15·5	12·0	16·7	19·9	24·1	23·3	26·1	23·0	19·6
33 . .	15·9	9·4	14·8	18·6	23·8	25·3	25·5	24·5	19·5

It is not possible for so varied a group of activities, which includes cinemas, and dog racing, to get any information of the "volume of trade."[1] The entertainments duty showed the following yields—

YIELD OF ENTERTAINMENTS DUTY, 1926–33
(Million £'s)

1926–7	1927–8	1928–9	1929–30	1930–1	1931–2	1932–3
5,729	6,120	6,004	6,696	6,952	7,869	9,319

This shows an increasing yield, but it misrepresents the facts of the activity subject to it. The duty had been abolished or reduced on the lower admission prices in 1924, but was revised and increased as from November, 1931, the increased revenue for that year being estimated at £1,000,000 and £2,000,000 in a complete year. It is known that immediately after the "cuts" in 1931–2 attendances and takings in cinemas and other entertainments dropped heavily, sometimes as much as 20 per cent. Owing to the methods of collecting this revenue, it is not possible to ascertain the yield in separate districts.

In the case of cinemas, the years of depression have seen the development of the sound and the supersession of the silent film. The following figures show this process—

NUMBER OF FILMS REGISTERED UNDER THE CINEMATOGRAPH FILM ACT, 1927

	Long Films			Short Films		
	Silent	Sound	Two Versions	Silent	Sound	Two Versions
1929–30 .	193	152	257	357	621	87
1930–31 .	124	454	103	155	816	87
1931–32 .	20	595	3	3	953	21
1932–33 .	2	641	—	—	814	—
1933–34 .	—	679	—	—	707	—

[1] Mr. Rowson's estimate for cinemas, 18½ million attendances weekly.—*Statistical Journal*, 1934.

There have been a number of changes in taxation affecting these trades—

Finance (No. 2) Act, 1931	Entertainments Duty revised and increased. Operative from 9th November, 1931.
Finance Act, 1926 . .	Betting Excise Duties, on bets on bookmaker's annual certificate, and on bookmaker's annual entry certificate in respect to his premises. Operative from 1st November, 1926.
Finance Act, 1928 . .	Betting Duty reduced.
Finance Act, 1929 . .	Duty on bets repealed.
Finance Act, 1930 . .	Bookmakers' Duty repealed.
Finance Act, 1925 . .	Customs Duties imposed on cinematograph films, at separate rate for blank, positive and negative films.
Finance Act, 1928 . .	Duty on negatives reduced to rate of blanks and certain scientific films exempted from duty.

6. Commerce, Insurance, Banking and Finance

As tested by insurable employment this group of trades shows a slower rate of growth than the other consumers' trades and services, the increase in 1933 being 11 per cent above the average in 1926–28 as compared with 27 per cent for the other trades of the group. Nor is this increase common to all districts, but on the contrary is concentrated mainly in London, south-east and south-west, while the north-west, Scottish and Welsh districts show an actual decline of 13 per cent, 1 per cent, and 11 per cent respectively.

Insurance. The activity of life assurance companies immediately before and during the depression is shown by the following tables—

INCOMINGS AND OUTGOINGS OF LIFE ASSURANCE COMPANIES, 1927–32

Income (Million £'s)

	Premiums	Annuities	Interest, Etc.	Miscellaneous	Total
1927 . .	68·7	2·8	28·5	0·7	100·7
1928 . .	72·8	3·2	30·3	1·2	107·5
1929 . .	74·4	3·3	32·4	1·4	111·8
1930 . .	71·7	3·8	33·4	1·7	110·7
1931 . .	70·6	4·7	33·7	0·8	109·7
1932 . .	73·1	13·3	34·0	5·0	125·4

OUTGOINGS (Million £'s)

	Claims	Surrenders	Annuities	Bonuses	Expenses, Profits, Transfer Etc.	Total
1927	44·1	6·2	3·1	1·0	11·5	65·9
1928	48·3	6·3	3·2	1·9	11·9	71·5
1929	50·5	6·7	3·2	1·1	15·5	76·0
1930	47·6	19·5	3·4	1·7	13·7	85·9
1931	48·9	13·6	3·5	1·8	24·7	92·5
1932	54·3	13·4	3·8	1·2	14·6	87·3

SITUATION BEFORE 1929. The problem of insurance companies since the war has been one of great difficulty. The various outgoings, payments on claims, surrenders, etc., are met from premium income, plus interest on invested funds, etc. On both sides of the account post-war conditions caused considerable changes and introduced elements of uncertainty. On the investment side two outstanding factors have been the changes in the market rate of interest, with its repercussion on the relative value of government and industrial securities, and the change in the volume and character of government securities. Not only had war and post-war borrowing greatly enlarged the total volume of government securities, but it enlarged the range of long and short term types open to the investor. Insurance companies, which before the war had but 2 per cent of their assets in these long term or irredeemable securities had enlarged their holdings of government securities to between one-fifth and one-quarter of their assets. The enlarged volume of relatively short term securities with a high yield were obviously suitable investments. The gradual establishment of order in the currencies, and the restoration of the gold standard introduced more certainty into overseas insurance business and investment policy. There was also a steady rise of premium income. Further, the persistence of high money rates during the same period meant a rise in industrial shares. Some depreciation of the value of fixed interest securities had to be provided for, but once this had been done, there was a growth of earnings and an increase of prosperity, which showed

itself in the greater sums set aside for bonuses, etc. Between 1919 and 1924, the average sum provided for this purpose in British business was £930,000; in 1925–8, £1,255,000.

THE EFFECT OF THE DEPRESSION. The onset of the depression led to many difficulties. First, defaults, moratoria, etc., jeopardized or reduced income from overseas investments, both government and industrial. Secondly, there was a fall in premium income on business within the United Kingdom. After reaching nearly £70,000,000 in 1929, it fell to £65,250,000 in 1931. Thirdly, as the crisis passed into deep depression there was a leap in the outgoings on account of surrenders. The sums required for this nearly trebled as compared with 1929. Fourthly, currency dislocation, the American collapse and other factors adversely affected the overseas business of British companies; and the depreciation of the pound made the settlement of overseas claims more onerous. More important were the fluctuations of the market rate of interest. The bank rate reached 6½ per cent in 1929, dropped to 3 per cent at the end of 1930, rose to 6 per cent a year later, and dropped to 2 per cent at the end of 1932. The fall in the rate of interest in the early phase of the depression led to an appreciation of bond values. The prolonged depression meant the accumulation of idle funds, with its usual consequences on the value of fixed interest stocks. The yearly average price of 2½ per cent consols rose from 54 in 1929 to 74 in 1933. The conversion scheme raises further issues. Quite apart from the decreased yield to set off against some increase of capital values, it is clear that a recovery, with an increase of industrial profits, would, in due course, remove any such capital gain, and that long term Government securities would face a period of depreciation. Whether such losses would on insurance companies holdings be counterbalanced by increased earnings through trade revival only time can show. But a further readjustment of insurance companies' investment policy would appear to be likely.

Of the other trades in this group, banking is dealt with in another place in this volume. On the group placed under the heading "Commerce" there is little statistical information.

COMMERCE, BANKING, INSURANCE, FINANCE

Numbers of Insured Workers in Employment, 1926–33

	London	S.E.	S.W.	Mid-lands	N.E.	N.W.	Scot-land	Wales	Total
1926–28 . .	42,500	4,900	4,600	5,200	6,700	10,800	11,100	2,900	88,700
29 . .	43,600	4,800	4,600	4,900	6,700	9,900	10,600	2,600	87,700
30 . .	42,800	4,900	4,800	4,800	6,500	9,500	10,600	2,400	86,300
31 . .	43,000	5,100	4,700	5,100	6,400	9,200	10,100	2,300	85,900
32 . .	45,800	5,500	4,800	4,900	6,600	9,300	10,200	2,300	89,400
33 . .	44,700	6,000	5,000	5,000	6,600	8,500	10,500	2,400	88,700
Percentage increase over Average 1926–28. .	+ 5	+ 22	+ 9	− 4	− 1	− 22	− 5	− 19	—

Percentage Unemployed

	London	S E.	S.W.	Mid-lands	N.E.	N.W.	Scot-land	Wales	Total
1926–28 . .	2·4	3·3	4·3	4·1	6·1	5·2	2·8	10·1	—
29 . .	1·9	3·3	4·7	4·7	5·7	6·2	2·7	10·3	2·5
30 . .	3·1	5·3	6·8	6·3	8·4	9·4	4·7	14·7	3·5
31 . .	5·3	9·8	8·7	11·1	11·5	13·4	6 9	17·5	5·3
32 . .	6·2	9·9	9·7	11·0	12·3	14·1	7·4	21·6	5·7
33 . .	5·2	8·3	8 2	11·1	12·0	14·5	6·9	17·7	—

SOURCES

Distributive Trades

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NATIONAL AND LOCAL FINANCE

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29—(C.111)

(*a*) NATIONAL FINANCE

PRE-1929. The totals of expenditure, tax revenue, and non-tax revenue for the five years 1924–25, 1928–29, were as follow—

(Million £'s)

Year	Expenditure[1]	Tax Revenue	Non-tax Revenue
1924–25	730	674	59
1925–26	755	667	74
1926–27	770	647	87
1927–28	762	693	93
1928–29	740	664	94

The important feature of expenditure is that, although wholesale prices declined from 100 in 1924 to 84·4 in 1928 and retail prices fell from 100 to 94·2 (cost of living index) in the same period, outlay was heavier in all years subsequent to 1924–25. The increase was due principally to greater spending on grant services. The heaviest single increase was recorded by the coal subsidy of 1925–26 (£23,000,000); but housing, exchequer contributions to local revenues, agriculture, and police all expanded regularly.

The growth of non-tax revenue saved taxation from increasing; instead, with one exception, taxation trended downwards. Owing to the upward tendency of expenditure, however, the relief to taxpayers was small.

POST-1929. The course of expenditure, tax revenue and non-tax revenue was as follows during the period 1929–34—

(Million £'s)

Year	Expenditure[1]	Tax Revenue	Non-tax Revenue
1929–30	749	655	79
1930–31	799	681	95
1931–32	771	710	61
1932–33	748	705	40
1933–34	690	684	41

[1] Excluding self-balancing items.

The reasons for the various changes may be discussed year by year.

1929–30. The rise of expenditure in this year was due to the fact that growth in certain items exceeded the decline of others. The principal expansion was £19,000,000 on account of grant services, and nearly £8,000,000 for unemployment insurance. The decline was due mainly to reduced allocation to the sinking fund.

Of the grant services, over £15,000,000 extra were required for the additional exchequer contributions to local revenues due to the initiation of the de-rating scheme. For, besides altering certain pre-existing grants (mainly Health and Roads), the exchequer undertook to make good the loss of rates caused by total de-rating of agricultural properties and 75 per cent de-rating of hereditaments used for productive industry and freight transport. It also provided certain "additional" and "supplementary" grants. Some £2,750,000 more was spent on agricultural services—such as land drainage, afforestation and other works designed to provide employment, together with a larger beet sugar subsidy; and the balance was devoted to housing, education and police. Although not included above, nearly £3,000,000 was allocated in Road Fund grants. This, and the above increases in moneys devoted to unemployment works, reflect the policy initiated by the Labour Government in the second half of the financial year.

The greater outlay on unemployment insurance is explained as to nearly £4,000,000 by the raising of the State's contributions from 6d. to 7½d. on 1st April, 1929, and as to over £4,000,000 by a relaxation of the conditions governing eligibility for "transitional" benefit—the cost of which was transferred to the exchequer. This had been recommended by the Blanesburgh committee who ". . . considered that the benefits should not be limited so as to drive persons genuinely unemployed to Poor Law Relief."[1]

As for revenue, the fall of £9,000,000 was half accounted for by stamp duties. Mainly due to the effects of the American Stock Exchange crisis of October, 1929, the decline also reflected

[1] Royal Commission on Unemployment Insurance, Final Report, g. 43.

the restriction of international and domestic trading due to the onset of depression. Receipts from customs and excise had been earmarked for a rise of over £4,000,000 compared with the previous year, but some £3,000,000 of this did not mature. The 16 points decline in wholesale prices in 1929–30 (March) was partly responsible. But the fall in receipts caused by the remission of the tea duty in 1929 and the effects of the 1928 reductions in sugar duty were specifically important: consumption was but negligibly smaller. Both income tax and super-tax failed to increase as expected before the onset of depression: but as the decline was small, its effects were so far minor. The small fall in estate duties was probably the outcome of lower Stock Exchange prices.

1930–31. The increase of expenditure in this year was heavy—some £50,000,000. Of this, however, some £14,000,000 were due to the full operation of the de-rating scheme as reflected in greater exchequer contributions to local rates. More than £17,000,000 were needed as an extra sum for unemployment insurance. Predominantly this was due to the growth in cost of "transitional benefit." The addition to unemployment caused by deeper depression was the basal factor. But the burden would have been lighter if—in March, 1930—the previous requirements that claimants should be able to show that they were "genuinely seeking work" and that they had paid 30 contributions in the preceding two years had not been waived. As a result, from this month ". . . benefit was paid at fixed rates, as of right, to applicants who were able to show eight contributions in two years or 30 at any time."[1] Numbers grew from 140,000 in February, 1930, to 300,000 in May, 1930, and to 410,000 by May, 1931.[2]

An advance in cost of over £6,000,000 was shown by the Old Age and Widows' and Orphans' pensions schemes. The former rose because of additions to numbers: the latter required an added grant of £5,000,000 because of the amending Act of 1929 allowing pensions to pre-act widows at the earlier age of 55, and various concessions of a minor character. Education cost

[1] Royal Commission on Unemployment Insurance, Final Report, g. 45.
[2] Royal Commission on Unemployment Insurance, Final Report, p. 29.

£5,000,000 more. Due to no single factor, the principal reasons are bound up with the additional staffs needed for reorganization on Hadow lines, preparations against the expected raising of the leaving age in 1931, the growth of secondary pupil numbers, the development of "special services," and rather larger grants to university institutions. More closely associated with the depression, besides heavier spending by the road fund on the special trunk roads scheme and the five-year plan—both dating from 1929—somewhat larger grants fell to be made to the Unemployment Grants Committee, for work schemes in agriculture, and on other developmental projects. Finally, police pensions and a small increase in active personnel entailed another £3,000,000, and nearly £2,000,000 more were needed for the beet sugar subsidy owing to the fall in sugar prices.

Revenue was higher by £36,000,000 than in 1929–30, but £13,000,000 below estimates. A further falling away of Stock Exchange activity as well as reduced trading at lower prices caused stamp duties to decline by another £5,000,000. Expected to rise by £5,000,000, customs and excise receipts were actually down by £2,000,000. The heavier duty on beer so reduced consumption as to cause revenue to dwindle by £1,500,000. Protective duties, spirits and wine, also lapsed—the outcome of lessened trading, lower prices and curtailed incomes. Even so, there are no signs of greatly reduced consumption—partly due perhaps to the inability of wages to fall by more than one point. While income tax was £4,000,000 less than estimates, sur-tax was £3,000,000 above them. Although the income tax standard rate had been put up by 6d, the granting of more generous allowances apparently had more to do with the fall than the depression. Besides, actual receipts exceeded those of 1929–30, by £18,500,000. Sur-tax revenue expanded because rates had been raised by 3d. on the smallest incomes, and by 1s. 6d. on the largest. Here, too, despite the taxation lag, the influence of depression might be expected to be stronger than it was: for numbers of sur-tax incomes fell by some 5400 only to 102,428. That estate duties only rose by some £3,000,000 notwithstanding substantial increases in duty, is probably explained largely by the decline of Stock Exchange values.

1931–32. Ordinary expenditure, after much revision, finally showed a fall of over £28,000,000 compared with the previous year; but revenue fell by only £5,000,000.

The original estimates for 1931–32 contemplated an ordinary expenditure of some £5,000,000 more than 1930–31. Less outgo was expected for the debt services—but chiefly because the sinking fund was to be depleted. On the other hand, unemployment insurance was budgeted £8,000,000 higher; and small increases were forecast for housing, pensions, education. On the revenue side, customs were expected to produce over £7,000,000 less, income tax £8,000,000 less, and there was a deficiency of £12,000,000 on the rating relief suspense account. Sur-tax was to bring in £4,000,000 more, estate duties £7,500,000, and stamp duties were expected to recover to the tune of over £3,000,000. In all, the revenue was put at only £10,000,000 lower.

But these estimates were considerably modified six months after the first Budget. The initial reason for this was the outcome of growing unrest at the burden of taxation. At irregular intervals, and even during 1930, there were signs of the growth of a movement in favour of economy—both inside and out of the House of Commons. In the third week of January, 1931, a campaign for retrenchment was definitely launched at a public meeting in the City. Opinion was readily mobilized in support, and on 11th February a day was set apart to debate economy in the House. The result of this was an overwhelming decision to appoint an "Economy" committee. By 17th March it was announced that a committee of seven, under Sir G. May, had been set up "To make recommendations to the Chancellor of the Exchequer for effecting forthwith all possible reductions in the National Expenditure on Supply Services, having regard especially to the present and prospective position of the Revenue."

The investigations of the committee were speedily made, and in July their report was published. They found that expenditure on revenue account had, in their view, been underestimated by a minimum of £12,000,000, made up as shown in the table on page 456.

To these items they added their estimate that the Road Fund would need to borrow £9,000,000, and that the Unemployment

	Increase (Million £'s)		Decrease (Million £'s)
Agriculture	0·20		
Education	2·55		
Old Age Pensions	1·50		
Widows' Pensions	1·00	War Pensions	1·90
Housing	1·10		
Navy	2·70		
Transitional Benefit	5·00		
	14·05		1·90
	Net Increase	£12·15	

Fund would add to its indebtedness by £40,000,000. They then declared that "Borrowing for such purposes is in reality adding to the national debt to relieve current revenue charges and is opposed to the principles of sound finance hitherto accepted without question in this country. We recommend that it be discontinued after this year."[1] And they concluded that "The total of these items represents an additional expenditure to be met from revenue in 1932 as compared with 1931 of no less than £62,000,000."[2] On the revenue side they showed that the preceding Budget had been balanced as to £20,000,000 from the capital of the Exchange Account, and as to £3,000,000 from its excess of assets over liabilities. Another £10,000,000 had been obtained by the acceleration of certain income tax schedules, and £4,000,000 from the Rating Relief Suspense Account. Since "None of this £37,000,000 will be available in 1932 . . . the gap between expenditure and revenue is thus widened to £99,000,000."[3] They next assumed a decline of £20,000,000 in income tax revenue and said that "If, in regard to other items of revenue we make the fairly optimistic assumption that receipts in 1932 will in the aggregate equal the estimates of 1931 . . ."[4] there would be a deficit in 1932 of £119,000,000.

These drastic findings perturbed the country. They assumed a more serious aspect because of the moratorium on war debt payments offered in June, and later accepted, the effect of which was to cause an expected loss of £11,000,000 in revenue. Added to the severity of the crisis then and during the next two months,

[1] Cmd. 3920, p. 15, g. 28.
[2] *Ibid.*
[3] Cmd. 3920, p. 15, g. 29.
[4] *Ibid.*, g. 30.

and the threat to sterling caused by the withdrawal of foreign balances and the promised exhaustion of the Bank's foreign credit, the budgetary outlook appeared blacker. The Labour Government fell, and was later replaced by a National Government, committed to balancing the Budget.

The amended Budget was introduced on 10th September, 1931. The original and revised estimates for 1931–32, and tentative estimates for 1932–33 were as follow—

REVENUE (Million £'s)

	Original Estimates 1931–32	Revised Estimates 1931–32	Tentative Estimates 1932–33
Customs and Excise	245·5	241·5	241·5
Inland Revenue	447·0	422·0	402·0
Motor Duties	5·0	5·0	5·0
Total Tax Revenue	697·5	668·5	648·5
De-rating Account	4·0	4·0	—
Other Non-tax Revenue	102·0	71·7	71·7
	803·5	744·2	720·2

EXPENDITURE (Million £'s)

Debt Interest	303·0	289·5	303·0
Other Services	9·3	9·3	9·3
Supply Services	439·0	473·8	526·0
Sinking Fund	52·1	46·3	52·0
	803·4	818·9	890·3
DEFICIT	—	74·7	170·1

It will be seen that the expected deficit for 1932–33 roundly exceeded even the high estimate of the May Committee. The need for action was therefore assumed to be even more urgent. As to some £22,000,000 in 1931–32, and £70,000,000 in 1932–33, reductions in expenditure were planned: and as to £39,000,000 in the first year and £81·5 million in the second, taxation was increased. The balance of economy necessary for budgetary equilibrium was to be achieved in 1931–32 by restricting the sinking fund to the extent of £13,750,000, and by £30,000,000 in

the following year. The economy proposals followed closely those of the May Committee. For "cuts" were made in salaries of Ministers, Judges, M.P.'s, Civil Servants, Defence Servants, Teachers and Police. Lower spending was decreed on Defence, Education, Housing, Agriculture, Colonial Development and Road Fund Services. The similar recommendations of the May Committee and the Royal Commission on Unemployment Insurance induced cessation of borrowing for Unemployment Insurance. Besides this a "needs" test was imposed, contributions were raised, and reductions made in benefit scales. Taxation was raised by higher duties on beer, tobacco, petrol, and entertainment; by 6d. on the standard rate of income tax and reduced allowances; and by higher sur-tax scales.

In the result, nearly £4,000,000 were saved on debt interest compared with 1930–31, and £34,000,000 on sinking fund appropriations. Defence services were £3,000,000 less; but Supply services were higher by £9,500,000. This last result was due to £11,000,000 extra being required for unemployment insurance owing to the growth of numbers due to depression and the stoppage of borrowing. With other minor changes, total expenditure was £28,000,000 smaller.

On the revenue side, customs and excise receipts were up by £11,000,000 on 1930–31. This was due chiefly to the heavier petrol tax and growth of motor transport (£13,000,000), and larger receipts from sugar and entertainment taxes. On the other hand, yields from beer and spirits fell. Income tax was over £31,000,000 higher—but the higher standard rate did not increase the yield per penny. Sur-tax rose by £9,000,000 almost. This is explained by higher rates: for the number of incomes fell from 102,428 to 89,790. In both cases allowance ought to be made for the apparently successful effects of a strong publicity campaign to pay taxes. Estate duties fell by £17,000,000; and again this was partly due to still falling Stock Exchange values. Non-tax revenue showed the large drop of £34,000,000. Some £19,000,000 was due to the Hoover moratorium, while £12,000,000 less was available in the Rating Relief Suspense Account. Miscellaneous revenues, because of the absence of reparation receipts, were lower by £4,500,000.

1932–33. Ordinary expenditure totalled some £22,500,000 less than in 1931–32. The payment of £29,000,000 to U.S.A., however, made the real total £6,500,000 more. A saving of £17,000,000 was achieved in debt interest—largely because of lower interest rates and conversions, but £25,000,000 less were allocated to the sinking fund. A further £4,000,000 were saved on Defence, £3,500,000 on Education, and £3,000,000 on War Pensions. On the other hand, Unemployment Insurance made heavier demands because of the extra unemployment, and its cost swelled by £30,000,000.

On the revenue side, the total was over £26,000,000 lower than that of 1931–32. Customs and excise actually expanded by £32,000,000; but £23,000,000 of this were derived from the new protective duties—mainly 10 per cent *ad valorem* duties under the Import Duties Act, 1932. Of the remaining £9,000,000, £4,000,000 were derived from the re-imposed duty on tea, £6,000,000 from the petrol tax and £4,000,000 from tobacco. But sugar and beer duties fell by £4,000,000 and £1,500,000. Both income tax and sur-tax yields were appreciably lower—by £36,000,000 and £16,000,000. An important reason for the smaller total of income tax was the reversion to half-yearly instalments on Schedules B, D, and E. But the effects of depression are reflected in the fact that the total was £4,500,000 below that of 1930–31. The sur-tax was more specific in its testimony, for the number of incomes fell appreciably. Other falls occurred in Sundry Loans, Miscellaneous Receipts and Rating Relief Suspense Account—by respectively £9,000,000, £7,000,000, and £4,000,000. The two former were due to the suspension of debt payments; the last to exhaustion of the balance of the fund. But for windfalls of £12,000,000 in estate duties, and a gain of £2,000,000 in stamp duties, the revenue would have been considerably smaller.

1933–34. Ordinary expenditure fell heavily—by a net £58,000,000 if the small debt payments to U.S.A. are disregarded. Some £70,000,000 were saved in the charges for interest and management of the debt. This large saving was the outcome of the large conversion operations of 1932–33, which in turn were rendered feasible by the substantial fall of interest rates. The same reason accounts for the large savings effected on interest for

the floating debt. Higher allocations to the sinking fund, however, reduced the net gain to under £60,000,000. Some £4,500,000 were saved on the Civil Services as compared with the preceding year. The small reductions in the cost of war pensions, education, works, buildings, and stationery were offset by greater spending on exchequer contributions to local revenues, foreign services and home department, law and justice. As for the rest, old age and widows' and orphans' pensions grew by nearly £3,000,000, while unemployment insurance cost more owing to the growth of unemployment and the continued payment of "transitional benefit" by the exchequer. Finally, defence items advanced by nearly £5,000,000.

Ordinary revenue only fell in total by £20,000,000. The greatest reductions occurred in income tax and sur-tax; the former by £22,500,000, and the latter by £8,000,000. As there was no change in rates or allowances, nor in methods of collection, the fall in income tax may be assumed to represent the earlier effect of depression, and the same comment applies to sur-tax. Unfortunately, statistics showing the types of incomes affected and the number of sur-tax payers are not yet available; but it is almost certain that the income tax incomes mostly affected were those derived from business, professions and salaries. It is very probable, too, that the numbers of sur-tax incomes fell appreciably. Customs and excise receipts were only £2,000,000 smaller in total. But whereas customs revenue advanced by £12,000,000, excise receipts declined by £14,000,000. The former grew in large part because of higher receipts from the various protective duties—and especially those levied under the Import Duties Act. There were also partial increases in other constituent items. The latter benefited substantially from the extra yield of nearly £5,000,000 in beer duties, which may be ascribed to the reduction of duty made a year earlier, and also, no doubt, to the hot summer of 1933! Apparently, however, material reductions occurred in other items. Estate duties were surprisingly higher to the extent of £8,000,000. This, however, is less to be explained by rising Stock Exchange values than by the falling in of a very large estate. Finally, stamp duties registered a gain of £3,500,000—owing to the rise of Stock Exchange prices, and increasing turnover.

OBSERVATIONS

1. It is noteworthy that expenditure as a whole in 1929–34 was almost identical, on the average, with that of 1924–29. Moreover, the changes in trend were similar in character; for in both quinquennia expenditure increased during the first three years, and did not fall until the last two years. In view of the striking dissimilarity in fundamental economic conditions—e.g. in volume of production, size of the national income, in wholesale and retail prices, this is interesting. It is true that in the period 1929–34, the difference between maximum and minimum outlay was £110,000,000; but it is also the case that the average outlay during 1930–34 was £3,000,000 more than in 1929–30. Even between the first and last year, the decline was no more than 8 per cent. Meanwhile wholesale prices (Board of Trade index) fell between 1929–34 by nearly 24 per cent, and costs of living (Ministry of Labour index) by over 15 per cent. The volume of production index included in the *Economic Journal* Supplement fell from 110·6 in 1929 (1924 = 100) to 90·5 in 1933; and it is possible that the national income was reduced by one-third in the period.

2. The changes occurring in expenditure during 1929–34 may be summarized as follows: Debt charges and sinking fund allocations were lower during the four years 1930–34 than in 1929–30 by some £55,000,000. No other single item approached this figure, the largest other declines being £6,000,000 in defence, and £5,000,000 in war pensions. On the other hand, unemployment insurance cost some £40,000,000 more during 1930–34 than in 1929–30; exchequer contributions to local revenues advanced by some £15,000,000; old age and widows' and orphans' pensions rose by £10,000,000; and small average increases of £3,000,000 and £2,000,000 were registered for education and housing respectively. In rough and in brief, then, lower debt charges were principally responsible for the fall, and increased social service outlays were chiefly causative of the rise. The specific effects of high depression were to reduce debt costs as a result of lower interest rates and the facilities offered for downward conversions, but to add to the cost of maintaining the unemployed—whose numbers rose largely and whose unemployment was prolonged by reason of the depression.

3. Because of the failure of expenditure to decline appreciably and also by reason of the fall in non-tax revenue, taxation was increased. By contrast with £655,000,000 in 1929–30, during 1930–34 it averaged £40,000,000 more. Even in the last year, it was £30,000,000 higher than in the first. If the *Economist's* estimate that the national income was about £4,400,000,000 in 1929 is accepted, and if it is assumed that this decreased by one-third in the period, the ratio of taxation to the national income grew from about 15 per cent to about 22½ per cent in the quinquennium. The effects of such a change must have been important and many-sided; but they cannot be discussed without regard to the changes occurring in expenditure and their effects. Here it is only observed that the virtual absence of new taxes—import duties apart—compelled resort to greater

progression even than had obtained in earlier post-war years. "Earned" income rates, which were 1½d. and 8s. 10d. in the £ in 1929, were later increased to 7d. and 12s. 3½d., on incomes of £500 and £50,000. Death duties were raised from 23 and 29 per cent on estates of £200,000 and £500,000 in 1929 to 24 and 38 per cent respectively. It may also be observed that tax revenue proved to be more buoyant than might have been expected in view of the severity of the depression. The explanation is doubtless bound up with the fact that transfer frequently involved subsequent re-transfer; but a *caveat* must be entered that the long-period effects call for careful and adequate allowance.

4. Since indirect and direct taxation were increased, on the average by roughly equal amounts, it might be assumed that the burden was shared more or less equally between Rich and Poor. But it must be recalled that by curtailment of income tax allowances in 1931, more wage-earners were required to pay income tax, while protective duties lowered their real income—at least, to some extent. On the other hand, the Rich contributed materially to the very substantial growth of the petrol tax as well as in part to the other increased indirect taxation. In limited space it is not feasible to assess the effects more minutely. But even if it were assumed that the Poor suffered more taxation in total than the Rich, before final estimates can be made account must be taken of the considerably larger numbers of the Poor, and—more important—of the incidences of the benefits accruing from the added expenditure. If the latter is done even superficially, since debt interest declined heavily in the period and the bulk of the debt is held by the Rich, they must have suffered a material burden. Nor did they gain largely from other changes in expenditure. They probably benefited from de-rating outlays, and to some extent from such increased outlays as housing. Mainly, however, the increased, or maintained expenditure was to the advantage of the Poor, e.g. unemployment insurance, old age and widows' pensions, education, housing, health insurance, and spending on unemployment works. The balance of advantage, then, was to the Poor.

5. The reactions of the changed scheme of taxing and spending were many, and of some importance. These call for more detailed analysis than is feasible now. Certainly, however, it may be expected that the volume of national saving was affected, the direction of investment was altered, changes occurred in the demand schedules for capital and for consumption goods and in relative price scales[1].

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(*b*) LOCAL FINANCE

PRE-1929. The statistics of expenditure on revenue account and on capital account of English local authorities for the five years 1924–29 were as follows—

(Million £'s)

Year	Revenue Account	Capital Account
1924–25	355	70
1925–26	373	101
1926–27	402	117
1927–28	403	120
1928–29[1]	406	103

The expenditure on revenue account was met from the following receipts—

(Million £'s)

Year	Rates	Exchequer Grants	Other	Total
1924–25	142	82	131	355
1925–26	149	85	138	372
1926–27	159	87	150	396
1927–28	167	90	159	416
1928–29[1]	167	89	156	412

The tendency for expenditure on revenue account to grow during the earlier years is marked. But for a change in accounting method by which expenditure out of capital receipts was transferred to capital account it would have shown a further growth to £414,000,000 in 1928–29. The largest contributor to the increased outlay was Housing. During 1925–29 the average increase over 1924–25 was over £10,000,000. This was principally due to larger loan charges evoked by increased building under the 1923 and 1924 subsidies, on slum clearance, rural housing and for small dwellings. Trading services also were some £10,000,000

[1] Changed accounting method introduced.

higher on the average. Nearly half of this was due to the Electricity service, which was profoundly developed because of the Electricity (Supply) Act, 1926, and the advances in technical development. The latter enabled prices to be appreciably reduced and demand to expand. Waterworks and Tramways were the more important remaining services to record increase—the former because of the extension of services to meet added demand, and the latter because local authorities absorbed a number of company undertakings and incurred heavy expenditure on tracks. Poor Relief required £5,000,000 more on the average. Outlay was heavily inflated by the general strike of 1926, while larger unemployment and prolonged unemployment were also important causes. But there was also greater readiness to extend relief facilities. Expenditure on Roads averaged some £4,000,000 more. Execution of works to provide employment under the 1920–25 programme was heavily responsible for this, as well as the raising and extension of certain grants by the Road Fund authorities. Health services required over £3,750,000 more. Although all services were actively developed, greater importance attaches to the enlarged spending on Sewage Works, Parks and Pleasure Grounds, and Baths and Wash-houses—all works favoured by the Unemployment Grants Committee as suitable for providing employment. On their part, local bodies were ready enough to anticipate future spending—especially on Sewage schemes. Education averaged some £3,000,000 more. The new elementary code of 1925, increased resort to "senior" departments, and the growth of loan charges as a result of extended building caused elementary outlays to grow. Larger numbers of pupils, higher loan charges on buildings, and the raising of standards caused higher education costs to expand. Finally, Police cost more because, mainly, of the higher bill for pensions.

As for capital spending, easily the most important item was Housing, on which the average outlay in 1925–29 was over £35,000,000 greater than in 1924–25. As noted above, this was occasioned by the growth of building under housing subsidies of 1923 and 1924 principally, but also by the expanded number of houses built under the Small Dwellings (Acquisition) Acts, under slum clearance schemes, and in rural areas. The generous

subsidies available were found attractive, especially because prices trended generally downwards. Trading services averaged £4,000,000 greater in 1925–29. As in the case of revenue spending, the greatest contributor was Electricity; for the 1926 Act led to heavy spending on new stations and transmission lines. Education costs advanced by about £3,500,000. The increase was due very largely to the growth of new building in and after 1925. Designed to remove defective premises and "black-listed" schools on the elementary side, it was also necessary to make increased provision for larger numbers on the "higher" side. Finally, it may be noted that outlay on Roads was maintained: and it is known that increased capital spending was made out of revenue funds.

As for revenue, it will be noted that Other Receipts and Rates expanded about equally, on the average. The former grew because of regularly increased receipts from Trading services, the substantial growth of Housing rentals, repayments for Private Street works, and an expansion in various tolls, fees, fines and penalties. The higher rates levy was, of course, required to make up the deficiency of the other two sources of receipt. Government grants grew but steadily. Mostly they trended upwards because of the automatic provisions of percentage grants—e.g. education, health, police. But the "assigned revenues" also expanded, while finally certain grants were raised in the period—e.g. for roads, housing subsidies, and health services.

To summarize: the growth of expenditure was largely due to the development of existing services—especially housing and trading services, but also education, poor relief, and health. There is no doubt, however, that totals were enhanced by anticipation of outlays which ordinarily would not have been undertaken until later, and by special expenditures—both designed primarily to provide employment. This point especially applies to the items of roads, sewage works, parks and pleasure grounds, and, to some extent, to housing. The burden of rates was made heavier because, while receipts for services rendered grew measurably, exchequer grants did not keep pace with the expansion of spending.

Post-1929. The statistics of expenditure on revenue account and on capital account were as follows—

(Million £'s)

Year	Revenue Account	Capital Account
1929–30	424	109
1930–31	433	111
1931–32	435	117

The statistics of receipts were as follows—

(Million £'s)

Year	Rates	Exchequer Grants	Other	Total
1929–30	156	108	165	429
1930–31	150	130	169	449
1931–32	148	127	172	447

The figures are stated on the new basis introduced in 1928–29, so that they are comparable with the statistics relating to that year. For convenience, the main changes occurring in each year are considered separately.

1929–30. Expenditure on revenue account grew measurably—by some £18,000,000. The main item to show increase was Trading services—some £5,000,000. Of this the development of Electricity production accounted for over £2,500,000; while the continued extension of water services and the tendency for local authorities to take over company tramways and to spend more on making them efficient as against omnibuses caused small growths of outlay. Over £3,000,000 more was spent on Roads, chiefly to provide work to absorb "transferred" labour-schemes which were generously aided by the Road Fund. Slightly less than £3,000,000 extra were devoted to Health services, and chiefly to Sewage works and Parks and Pleasure Grounds under the larger schemes for providing work formulated by the Unemployment Grants Committee. Education cost £2,500,000 more. Preparations against the expected raising of the school-leaving age in 1931, and the enlarged secondary school numbers were

mainly responsible: but loan charges on previously-expanded building also rose. Housing expanded in cost by an equal sum. This was principally because of the additions to loan charges and repair bills caused by the earlier progress of building.

Capital outlay was higher by about £6,000,000 in all. Roads counted for over £4,000,000 of this, and the explanation resides in the initiation of the new trunk roads and five years' programmes by the Road Fund, a main object of which was to add to employment. The higher grants attached to these and certain other "expedited" schemes proved attractive to local authorities. Such Health services as Sewage works, Parks and Pleasure Grounds, Baths and Wash-houses cost more owing to the favour these found with the Unemployment Grants Committee as devices for providing work. Although Trading services did not advance as a whole, it may be noted that Electricity schemes again accounted for expanded outlay.

As for revenue, the greater total of the ordinary receipts was due to larger housing subsidies due to increased building, and the growth of road fund grants emanating from the augmented programme initiated this year. Some £13,500,000 more were derived, however, from the new grants given to relieve rates as a result of the introduction of the de-rating scheme. Other Receipts moved up by some £7,000,000. For this Trading services and Housing were almost entirely responsible. Probably the former were favourably affected by the larger yields accruing from previous growths of expenditure and by the relatively favourable economic conditions of the earlier part of the year—e.g. improved revenues from Electricity and Water, and from Transport services. The latter expanded because of larger rentals from an increased number of houses. Owing to the de-rating schemes, Rates were relieved materially in this year.

1930–31. There was a further upward movement of expenditure on revenue account in this year—some £9,000,000. Health services required over £3,000,000 more. Nearly every constituent of these expanded, but the largest single increase was for hospitals, due to the reorganization of these needed by the 1929 Local Government Act (£1,500,000). Education cost £3,000,000 more as a result of the progress in reorganization made under the

Hadow scheme, the development of "special services," some additions to the number of secondary school pupils, and the higher loan charges resulting from the expanded building activity. Lower prices, the continuance of housing subsidies, and pressure to proceed with slum clearance causing a growth of capital outlay in the previous year led to the expansion of loan charges and other maintenance items for Housing by some £3,000,000. The inducement to respond to offers by the Road Fund of generous grants for repair and maintenance work designed to provide employment caused Roads outlay to grow by over £1,500,000. On the other hand, however, owing to the greater ease with which "transitional benefit" was available, and to efforts by the Minister of Health to prevent laxity in administration, the costs of Poor Relief declined by nearly £2,000,000.

Capital expenditure was but £2,000,000 higher on balance. This was due more to contractions in specific lines of outlay rather than to a general slowing down. Housing, for example, dropped by over £5,000,000. It is difficult to account for this beyond surmising that the fall of prices caused the total of actual outlay to fall. As well, however, there was a marked decline in the amount of building done under the Small Dwellings (Acquisition) Acts. Electrical progress, too, slowed down—probably because of the very speedy development which had obtained since 1926, and a falling off in demand due to depressionist influences. Health services took some £3,000,000 more, partly because of still larger expenditure on hospital reorganization, but also because work schemes in connection with Sewage plants, Parks and Pleasure Grounds, and Baths and Wash-houses evolved in response to unemployment grants caused loan charges and maintenance costs to rise. Education absorbed an extra £2,000,000—chiefly because new building was increased in response to the higher grants of 50 per cent made available in the previous year. Road costs were up by £3,000,000—mainly for the new unemployment schemes evolved a year earlier.

On the revenue side another substantial growth was recorded by exchequer grants. Over £30,000,000 more resulted from the full operation of the de-rating scheme; but the withdrawal of certain grants—e.g. health and roads—caused the net figure to

be lower. Other Receipts advanced by some £6,000,000—mainly due to higher receipts from the larger number of houses and from previous extensions of trading services. Rates benefited from these changes and the fact that revenue expenditure slowed down in this year—to the extent of £6,000,000.

1931–32. Expenditure on revenue account was only £2,000,000 higher. It must be remembered, however, that this year saw a successful attack on national expenditure which reduced its total by some £30,000,000; and it might be expected that the economy "crisis" would have had more substantial consequences for local spending. Actually, Education costs fell by £1,500,000 and Police costs were somewhat lower—both because of the "cuts" in pay—and Roads expenditure was curtailed a little through the restriction applied to such work. The greatest decline, nevertheless, was registered by Poor Relief—which fell by more than £1,500,000. As before, this was the outcome of the extended availability of "transitional benefit," but besides it was due to a tightening up of administration. On the other hand, Housing costs were up by £2,000,000 in consequence of the growth of loan charges and maintenance. Health services advanced by a roughly equal amount owing to increased spending on hospitals and infectious disease, sewage works, salaries of medical staffs, and general increases in other items. Nor was any notable decrease recorded in any other item.

As for capital expenditure, this was some £6,000,000 higher. Housing needed some £2,500,000 extra—for subsidy building advanced because of falls of costs and interest rates, and there were no appreciable declines in other lines of municipal building. Education absorbed a further £2,000,000, this being almost entirely taken up by continued re-building to replace obsolete elementary premises, done under the favourable grants accorded in 1929. Over £2,000,000 more, too, was devoted to Sewage schemes—by means of grants from the Unemployment Grants Committee mainly. A small growth also was shown by Roads—again designed to assist unemployment.

Other Receipts alone grew in this year on the revenue side. The upturn was but slight, and mainly referred to Housing rentals. Exchequer grants declined because the reductions of

pay in such grant-aided services as Education and Police caused the total cost to fall. Road grants also were somewhat smaller. Rates fell slightly.

OBSERVATIONS

1. The main point to be noted is that both expenditure on revenue account and on capital account continued to increase until 1932 despite the depression. And although the accounts are not yet issued for 1933–34, it is expected that but small declines will be recorded since 1932. The course of local spending was therefore dissimilar to that of national spending during the depression period.

Coming after substantial increases in expenditure during 1924–29, and accompanied, as it was, by material price declines, the question arises as to the reasons for the failure of local expenditure to decline. To some considerable extent, the policy of providing work to meet enlarged unemployment was responsible. This is illustrated by the enhancement of outlays on roads, sewage works, parks and pleasure grounds, baths and wash-houses, certain trading services—such as electricity and water—and housing. The enlarged and extended exchequer grants were a direct incentive to local authorities. But of importance, too, was the heightened readiness of the central authority to sanction loans and to press for the anticipation of future outlays.

Nevertheless, this was not a predominant reason for greater spending. For it is clear that the virtually unintermittent development of normal local services was, in fact, heavily responsible besides. This is instanced by the large-scale growth of commitments for housing; the distinct and uninterrupted expansion of outlays on the diverse health services; the progress recorded in trading services; the augmented spending on education; and small increases in a wide variety of items ranging from moneys devoted to the destruction of rats and mice to the more important spending on such items as public lighting. This state of affairs is explainable by the fact that the existence of depression did not reduce perceptibly the insistence of the central authority on the due execution of obligations prescribed by Parliament and Ministerial Orders. This especially applied to all services relating to social need, but also to those more largely bound up with social welfare. In addition, de-rating encouraged more, rather than less, spending, because of the relief to local rates and the added facility to raise assessments given by immediately preceding and accompanying legislation.

2. While the reduction of interest rates enabled national expenditure to be curtailed by means of conversions and reduced charges for floating debt during the period, the advantage to local authorities was smaller and lagged distinctly. Partly this was the outcome of difficulties attendant upon re-financing—which were many[1]—and

[1] E.g., a substantial proportion of local borrowing is done on mortgages; and terms of loans often restricted the right to convert or to repay.

partly to the slow and small reductions of interest rates made by the Public Works Loan Board. Again, the decisions taken during the economy "crisis" period concerning national finance were to the effect that the total of debt should not be increased. On the other hand, in the case of local finance—as a result of the removal of all limits on borrowing power having relation to assessable value by the Local Government Act, 1929—there was a tendency to relieve revenue expenditure by a resort to capital spending. But rating burdens were not appreciably modified thereby. For while the concession facilitated unemployment schemes and developmental spending, it did not reduce the burden of current charges for ordinary local services because there was no change of principle in the methods of financing these.

3. The fact that taxation was increased by the de-rating legislation of 1929, while it curtailed rating burdens, and ensured better distribution of levies made for local purposes, increased the requisitions made on taxpayers during the subsequent depression. In 1930–31 this added roundly to the demand on the national budget, and later checked the reduction of taxation totals.

The effect of the relatively small reduction in local rates—they were actually higher in 1931–32 than in 1924–25, and the average for 1929–32 was only £6,000,000 lower than that for 1924–29—was to prevent any material relief of rating burdens in total. And while the distribution of these was altered so as to aid productive industry by the de-rating scheme, which fortunately came into operation at the beginning of the depression period, the maximum advantages inherent in the scheme were not realized. An investigation of de-rating suggests that, besides the unduly thin spreading of relief, it failed to remove the more blatant disparities of rates as between different areas; and that while industries benefiting gained from lower assessment, they were not infrequently called upon for higher poundage rates.

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