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PREFACE

This is the third *World Economic Survey* dealing with a world at war. The first, covering the period 1939/41, was concerned mainly with the problems of transition from peace to war economy, and these problems still occupied an important place in the 1941/42 edition. The present edition, by contrast, reviews a period of full-fledged war economy, a period in which the mobilization of resources for war purposes reached its peak in the principal belligerent states, and throughout the world the stresses and strains imposed by war conditions and war requirements reached their maximum tension. The period covered in this volume extends from the autumn of 1942 to the end of 1944, though in a few cases the story is carried forward to include events of the early weeks of 1945.

A general picture of conditions in selected countries or groups of countries is given in Chapter I. The following chapters contain more detailed information on production, consumption, finance, prices, trade and transport, each subject being treated separately.

It is hoped that the present edition of this *Survey* may derive a special interest from the fact that it deals with the world economic situation on the eve of the United Nations' victory—a situation which will inevitably form the point of departure for much of the work of post-war reconstruction.

A. LOVEDAY,
Director of the Economic,
Financial and Transit Department.

League of Nations,
April 1945.

CHAPTER I

GENERAL OUTLINE

Introduction

The growth and intensification of war economy, described in the two preceding issues of this *Survey*, reached a peak in 1943. There was comparatively little further change in the economic war effort of the principal belligerents during 1944. In the United States and the United Kingdom, according to the available indications, war production seems to have attained a maximum during the latter part of 1943, while in Germany it had at that time already passed its peak. Germany's economic strength was being steadily undermined during the years 1943-44 by losses in the field of battle as well as by aerial bombardment. At the same time the economic war effort of the United Nations was, on the whole, maintained at or near the maximum degree of intensity until the complete defeat of Germany was accomplished in the spring of 1945.

From the high-water mark reached in the second half of 1942, the tide of Axis invasion ebbed fast. The area subject to Germany's control in Europe and North Africa, after expanding rapidly in the three years from September 1939, shrank just as rapidly in the two following years. In the Pacific, the area under Japanese control also began to contract. The maritime supply lines of the United Nations were firmly secured by the defeat of the U-boat in the Battle of the Atlantic and by the opening-up of the Mediterranean.

These were among the many momentous changes that affected the course of economic as well as military affairs during 1943-44. The period was by no means uneventful. Nevertheless, the general impression left by the facts assembled in this volume is that during these two years—and more especially after the middle of 1943—the course of economic developments in the world at war exhibited a phase of relative stability.

Most countries had by that time made great progress towards adjusting themselves to the conditions and requirements arising from the war. The mobilization of economic resources for war purposes to an extent compatible with the accepted level of consumption was practically completed in 1943, not only in the United States and the United Kingdom, but also in such countries as Canada and Australia. In both the United States and the United Kingdom the volume of consumption remained almost stable from 1942 to 1944. While in the United Kingdom the volume was about 20% below the pre-war level, in the United States it was higher than ever before. The curve of industrial production in Canada as well as in the United States,

after rising steeply in 1941-42, flattened out in 1943 as the limits of available manpower were reached.

In German-occupied Europe, thanks largely to a good harvest, food consumption stopped declining in 1943 and in some regions even improved. Economic conditions in the neutral European states were remarkably stable; industrial activity in Sweden and Eire, for example, remained almost constant at levels that were 12-15% and 20-25% respectively below those of 1939.

The greater stability in 1943-44 showed itself, furthermore, in a slackening of the rate at which prices were rising. In many countries, including notably the United States, the United Kingdom, Canada, Australia and New Zealand, indices of both wholesale prices and the cost of living rose, if at all, much less than in the earlier war years. Governmental efforts to curb the inflation of prices seemed in many cases to have met with a measure of success. These efforts, however, did not only take the form of taxation; they consisted in large part of rationing, price control and other measures which, while no doubt checking the expansion of purchasing power, did not remove the inflationary surplus that existed, but rather stored it up for the future.

It is true that in certain areas, such as Italy and southeastern Europe, inflationary forces driving up the level of prices remained very active or became even more intense. In the Middle East and India, however, where a serious inflation of prices had got under way, the movement was checked, if not arrested, in the latter half of 1943. In China there was "stability" only in the sense that the increase of prices was not further accelerated but continued at a steady rate of about 10-12% per month. In the Latin-American republics, with a few exceptions, there was a slowing-down in the upward movement of price indices during 1943-44.

If thus the world economic situation may be said to have reached a certain degree of stability in 1943-44, that situation itself was none the less of a quite extraordinary character. Never before had there been such feverish activity throughout the world; never before had there been so great an output of goods and services. Over 50 million men were under arms; and yet world production was considerably greater than in peace-time. The expansion of aggregate output was made possible by the elimination of unemployment, by the lengthening of hours, the employment of women and others who had not been previously employed, and by the shifting of workers from jobs where their productivity was low to jobs where their productivity was relatively high. The last-named factor showed itself not only in labour transfers in highly industrialized countries, but also in a shift of manpower from farms to factories in primary-producing states bent on developing their own industries under the stress of war-time scarcities.

It has been estimated that in 1943 roughly one-third or more of total world production was for war purposes.[1] At least one-half of the resources required for the world's war production seems to have come from the expansion of aggregate output, the rest being provided by reductions in consumption and in private capital outlay. Needless to say, the proportions in which these sources contributed to the economic war effort varied greatly from country to country. By far the greater part of the enormous war output of the United States came from increased total production; some of it came also from reduced private investment; but the volume of consumption does not appear to have been reduced. Canada and South Africa seem to have provided practically the whole of their war production through an increase in aggregate output.[2] In most of the belligerent countries, however, including the United Kingdom, Germany, the Soviet Union, Japan and Australia, a large part of the war effort had to be met by a reduction in private consumption. Furthermore, civilian capital outlay in some of these countries—notably in the United Kingdom and Germany—was cut down to such an extent that not only the expansion, but also the replacement and maintenance, of private capital equipment had to be neglected.

In addition to such "disinvestment," large-scale destruction occurred through military operations, principally in Europe. The destruction wrought by retreating German armies, particularly in Russia and Italy, was enormous. From the spring of 1943 onwards Germany herself was subjected to heavy and almost continuous bombardment from the air. The German war economy became more and more what German writers called an "air-raid economy" (*Luftkriegswirtschaft*). Apart from air-raid victims, whose number is not known, there were some 30 million homeless people in Germany and the rest of Continental Europe—people who had been uprooted as a result of warfare, deportations and recruitment of foreign labour.[3]

Economic conditions in Continental Europe were increasingly affected by inland transport difficulties caused by military destruction and other factors. In the Far East, a severe and growing shortage of shipping was the main obstable that prevented Japan from fully exploiting the vast area she had conquered in the southwest Pacific and southeast Asia. By contrast, the shipping situation of the United Nations showed a marked improvement during and after 1943,

[1] See "Economic War Efforts: VI—The World at War," in *The Bulletin of International News* (The Royal Institute of International Affairs, London), May 13th, 1944, pages 387-391.

[2] See "Economic War Efforts: VI—The World at War," in *The Bulletin of International News, op. cit.*, page 389.

[3] See Eugene M. Kulischer: *The Displacement of Population in Europe* (International Labour Office, 1943).

thanks to the defeat of the German submarine campaign and the prodigious expansion of shipbuilding in the United States. Though there was some recrudescence of German submarine activity in the latter part of 1944, the increased scarcity of shipping which developed at that time was due mainly to the simultaneous expansion of military operations in both Europe and the Pacific.

The improvement in shipping was of central importance for the supply and distribution of goods and services in the United Nations war economy. The massive flow of lend-lease material from the United States came to be offset in part by goods supplied and services rendered as "mutual aid" to United States armed forces overseas. The extent of this aid remained modest in comparison with lend-lease, but it increased steadily as the U.S. forces overseas increased.

Moreover, as shipping conditions grew less strained, it became easier for the centres of war industry in the United States and Great Britain to draw upon the agricultural and mining reserves of outlying regions. Many countries in the sterling area and in Latin America acquired large amounts of sterling, gold or dollar balances in exchange for the export surpluses they contributed to the United Nations war effort. In this way the accumulation of deferred purchasing power or "pent-up demand" became a feature of international monetary relations as well as of domestic war finance. In some part, however, the increased monetary receipts of primary-producing countries were currently applied to the redemption of long-term external debt. The progressive liquidation of the international debtor status of some of these countries was accompanied by continued, and in some cases accelerated, industrial development at home.

Debt liquidation occurred not only in the international, but also in the domestic accounts of agricultural communities. Frequently part of the money income which accrued to farmers and peasants could not be spent because of the lack of manufactured goods, and was in consequence used to some extent for debt repayment. In France, Hungary and elsewhere on the European Continent there was a marked improvement in the financial condition of farmers as compared with other classes of the population. The weight of agricultural indebtedness was substantially alleviated in countries as wide apart as Canada, Denmark and India. In India especially, the inflationary price rise in 1942-43 was not without some beneficial effect, considering the heavy debt burden which had weighed on the Indian peasantry previously.

The Situation in Particular Countries

The main body of this *Survey* is devoted to a discussion of special subjects representing various categories of economic phenomena in the world as a whole, rather than to a description of developments in

different geographical areas. Accordingly, the chapters which follow deal successively with production, consumption, finance, prices, trade and transport.

Before turning to these specialized chapters, it seems desirable to glance at the general situation in certain countries or groups of countries. In the following pages, therefore, we shall briefly review the economic scene and take note of the salient features in it as we turn from one part of the globe to another.

United States

Economic developments in the United States during 1943 and 1944 exhibited in a marked degree the tendency towards stabilization mentioned earlier. The expansion of employment and production, which had been extraordinarily rapid in 1941 and 1942, slowed down in 1943, while in 1944 the main indices of economic activity showed, on the whole, relatively little change either upward or downward. The aggregate volume of war production, after reaching a peak in the last quarter of 1943, remained practically stable in 1944 (see Chapter II, page 87), although considerable shifts occurred as between different types of output in response to changing military demands.

The remarkable fact, however, is not so much this tendency towards stability as the exceptionally high level at which it manifested itself. Between 1939 and 1944 the total volume of production in the United States nearly doubled. It was this expansion in total output that enabled the United States to produce an enormous flow of goods for war purposes without any appreciable sacrifice in the average civilian standard of living. In other words, the United States in 1944 had, in effect, two economies—one for war, and the other for the civilian community—and each of them was practically equal in size to the entire pre-war economy.

This situation is best illustrated by the following figures representing the current money value of (or, what is the same thing, expenditure on) goods and services produced in the United States in the years 1939 and 1941-44.

The current value figures reflect partly, of course, the rise in prices since 1939; but in the last two lines of the table the figures have been adjusted for the price rise so as to show the movement in "real" terms. Such adjustments cannot claim any great precision, and are necessarily subject to reservations. It is difficult, in particular, to make allowance for changes in quality. In view of war-time deterioration in the quality of consumers' goods, it may well be that even the adjusted figures overstate the real volume of consumption after 1941.[1]

[1] It may, however, be noted that, according to a report quoted in Chapter V (page 237), allowance for "hidden" price increases due to quality deterioration

United States: Gross National Product (or Expenditure)

$(000,000,000's)					
At current prices:	1939	1941	1942	1943	1944[a]
Gross national product (or expenditure)	88.6	120.5	151.5	187.8	198.7
Government expenditure on goods and services	16.0	26.5	62.0	94.8	99.4
War expenditure	1.4	13.3	49.5	82.5	86.3
Other Government expenditure[b]	14.6	13.2	12.5	12.3	13.1
Output available for private use	72.6	93.9	89.5	93.0	99.4
Private gross capital formation	10.9	19.4	7.7	2.1	1.8
Construction	3.6	5.2	2.8	1.5	1.6
Equipment and other	7.4	14.2	4.9	0.6	0.2
Consumers' goods and services	61.7	74.6	81.9	90.9	97.6
Durable goods	6.4	9.1	6.3	6.6	6.7
Non-durable goods and services	55.3	65.5	75.6	84.3	90.9
At 1939 prices:					
Gross national product	88.6	112.3	132.6	155.3	....
Consumers' goods and services	61.7	69.7	68.8	70.8	73.6

Source: *Survey of Current Business* (U.S. Department of Commerce).
[a] Preliminary estimates.
[b] Including state and local governments.

The increase in the volume of consumption from 1939 to 1943, which is indicated by the last line of the table, was accompanied by a sharp reduction in private investment ("gross capital formation"). Practically the whole of the increase in gross national product from 1939 to 1943 was therefore available for war purposes. According to preliminary estimates, this is roughly true also of 1944 compared with 1939. In 1944 the gross national product in "real" terms (that is, at constant prices) seems to have been more than 80% larger than in 1939. It was this expansion which made possible a volume of war production comparable in magnitude to the country's total production in 1939.

Owing to the nature of war requirements, this expansion of aggregate output was, of course, chiefly concentrated in industrial production. The volume of industrial production more than doubled between 1939 and 1944. As will be shown in Chapter II, war production absorbed more than this increase; there was, in consequence, a decline in industrial production for civilian needs.

An increase of this magnitude in total industrial output naturally required a considerable expansion of industrial capacity in terms of plant and equipment. The utilization of the previously existing plant and equipment was greatly intensified; but the war created demands for many types of industrial capacity which had previously not existed at all or existed in quite inadequate volume. The war-time expansion of the industrial structure was, however, by no means confined to

and other similar factors would raise the official U.S. cost of living index by 3 to 4 points—that is, by only 2 to 3%.

munitions industries in the strict sense. A number of basic capital-goods industries shared in it. Steel production capacity, for example, was substantially increased.

The creation of new or increased industrial capacity reached its peak in 1942. In that year the Federal Government spent about $3,500 million on the building of new industrial plant—an outlay as great as the total private and government expenditure for this purpose during the five years preceding the entry of the United States into the war.[1] Machine tool production, furnishing the necessary equipment for the war factories, was also at its peak in 1942. In 1943, industrial building, machine production and other "investment" activities declined from the exceptionally high level of 1942, though they still remained considerable.

The United States war production programme as a whole encountered, in succession, three principal bottlenecks. In 1941-42, war production was held back by the shortage of industrial plant and equipment; in 1942-43, the limiting factor was the supply of materials, such as metals; in 1943-44, manpower became the most serious bottleneck.

The expansion of industrial capacity which removed the first bottleneck was described above. The situation in regard to industrial raw materials changed rapidly from acute stringency in 1942 to comparative ease or even abundance in the latter part of 1943. In 1944 most materials offered little or no difficulty; among those that did cause concern, coal and lumber were the most important.

The problem of manpower, however, was the most fundamental one, and it became increasingly acute in 1943-44 as the remaining unemployed were absorbed, as the expansion of the labour force by the recruitment of women and others not previously engaged inevitably slowed down, and as the personnel of the armed forces was increased to a total of more than 11 million men. A lengthening of working hours solved only a small part of the problem. More important, probably, was the general improvement in the utilization of the available manpower. The growing pressure of labour shortages led to labour-saving devices, stricter controls, improved administrative methods and greater efficiency. It has been officially reported that, up to September 1944, training schemes conducted under the auspices of the Federal Government had equipped about 13,760,000 workers with special skills required in the war production programme. Among the controls designed to eliminate wasteful uses of manpower was an order issued in August 1944 placing "ceilings" on employment in war plants as well as in less essential industries in order to prevent the "hoarding" of labour.

[1] *Survey of Current Business* (U.S. Department of Commerce), January 1944, page 4.

Employment in the war industries declined after November 1943, and it proved possible to increase the output of certain essential civilian goods, such as farm machinery and railway equipment. In the summer of 1944 the prospect of an early end of hostilities in Europe gave rise to much discussion of "reconversion" plans. There was a drop in the labour force as many women and other persons gave up their war work; and there was a tendency for workers to leave the war plants in search of employment in peace-time industries. The War Production Board issued an order in August 1944 empowering local production and employment authorities to permit the manufacture of certain types of civilian articles provided that the necessary labour was available locally for the resumption of such manufacture without any encroachment on war production.

It proved, however, impracticable to issue more than a relatively insignificant number of permits under this order. Later in 1944, military demands were once more sharply increased, and the operation of the order just mentioned was suspended. At the same time, manpower controls were tightened up again; the drive for war production was pressed forward vigorously until the spring of 1945, when the final defeat of Germany was accomplished.

The preceding comments have been confined, in the main, to the industrial sector of "gross national product"; but the agricultural economy of the United States has also shown noteworthy changes. In 1944, the total volume of agricultural production in the United States attained a record level almost one-third above the pre-war average (1935-39). The wheat and corn crops, in particular, were larger than ever before; meat and dairy production was well above the pre-war level. Moreover, this remarkable expansion in agricultural output was achieved with a labour force about 10% smaller than in 1935-39. "The shortage of farm workers has been overcome by a longer and more strenuous working period, while favourable weather and advances in production methods helped to raise output."[1]

In view of the rising share of war expenditure in the total national expenditure,[2] it was natural that a growing proportion of the United States output, agricultural as well as industrial, should be shipped abroad. The published statistics of United States exports do not include shipments to U.S. armed forces overseas, but they do include lend-lease exports, which are discussed in some detail in Chapter VI. Total exports, according to the published figures, represented about 7.3% of the gross national product of the United States in 1944, compared with 3.5% in 1939. Imports, on the other hand,

[1] *Monthly Bulletin*, Federal Reserve Bank of New York, November 1944.

[2] On the basis of the figures in the above table, the percentage of war expenditure in gross national product in the four years 1941-44 was as follows: 11%, 32%, 44%, 43%.

represented only 2.0% of the gross national product in 1944, compared with 2.6% in 1939.

Consumers' expenditure in the United States, though it increased in "real" as well as in monetary terms, remained low in relation to consumers' incomes. In consequence, the flow of individual savings showed a very considerable increase, as may be seen from the last two lines of the following table:

United States: Income and Savings of Individuals

$(000,000,000's)

	1939	1941	1942	1943	1944[a]
Income payments to individuals	70.8	92.7	117.3	143.1	156.8
Less: Personal taxes and non-tax payments[b]	3.1	4.0	6.7	18.5	19.3
Disposable income of individuals	67.7	88.7	110.6	124.6	137.5
Less: Consumers' expenditures	61.7	74.6	81.9	90.9	97.6
Net savings of individuals	6.0	14.2	28.8	33.7	39.9
Net savings as % of disposable income	*9*	*16*	*26*	*27*	*29*

Source: *Survey of Current Business* (U.S. Department of Commerce).
[a] Preliminary.
[b] Federal, state and local.

Up to the end of 1942, the ratio of savings to income increased rapidly. This was due partly to a natural lag of disbursements behind the mounting income flow, and partly to the closing of certain outlets of expenditure owing to restrictions on the manufacture of durable consumers' goods. Although income continued to increase after 1942, the savings ratio remained almost constant. A considerable part of the increase in income payments after 1942 was absorbed through higher tax rates. The "pay-as-you-go" system of tax collection adopted in 1943 also helped to check the rise in disposable income. The savings ratio showed only a slight further increase; but the level it had reached was remarkably high in comparison with earlier years. The high rate of savings has been attributed in part to "an awareness of future uncertainties and the temporary nature of some war income."[1] Among workers in the war industries, in particular, fear of post-war unemployment doubtless tended to keep up the proportion of income saved.

The high rate of saving was an important condition for the maintenance of relatively stable prices. Among the principal milestones in the development of price and wage controls in the United States were the "Little Steel" formula set up by the War Labor Board in July 1942, the Stabilization Act of October 1942, the President's "hold-the-line" order of April 1943 and the introduction, in May

[1] *Survey of Current Business* (U.S. Department of Commerce), August 1944, page 9.

1943, of government subsidies to keep down the cost of living. Further particulars will be found in Chapter V. Here it may suffice to note that the indices of both wholesale prices and the cost of living remained practically constant from the spring of 1943 to the end of 1944. The pressure of surplus purchasing power was very noticeable in particular markets; but, on the whole, it was held in check with a large measure of success in the period reviewed.

Canada

The course of events in Canada was not very different from that in the United States. Economic mobilization reached a peak in 1943 and showed little change in 1944. Between 1939 and 1944 Canada's national income at current prices more than doubled. Allowing for the rise in prices, the increase in the real national income, representing the country's physical output, has been roughly estimated at about 80%. As in the United States, civilian consumption increased during the war years up to 1944, while private investment was reduced.

In terms of manpower, the changes in the Canadian economy have been lucidly summarized as follows. "In 1939 about 4,000,000 Canadians were gainfully occupied and at least 300,000 who were available for work were not employed. By the end of 1943 the gainfully occupied population had risen to approximately 5,100,000, but about 1,900,000 of them were engaged in the armed forces, in supplying the weapons of war, or in producing the food required for special wartime exports. The number available to meet civilian needs had therefore fallen to about 3,200,000, but at the same time the average standard of living had risen materially and was probably higher than it had ever been. This increased output of consumption goods by a smaller working force can be accounted for in part by longer hours of work, favourable crop conditions and the abnormally small number now employed in private capital development and maintenance work. Another important factor, however, has been the improvement in production techniques worked out under the stress of war."[1]

The increase in total employment, excluding the armed forces, was relatively small. Apart from longer working hours, it was the advance in productive efficiency that contributed largely to the increase in national output. The spread of labour-management committees, as in the United States, may be mentioned in this connection; but more important was the transfer of workers from relatively unproductive occupations to jobs better supplied with capital equipment and, in particular, to the highly mechanized war industries built up mainly in the years 1940-42.

In 1943 the manpower shortage became serious, and the labour

[1] Bank of Canada, *Annual Report*, February 10th, 1944, pages 11-12.

controls administered by the National Selective Service were tightened up. A series of employment transfer orders were issued, listing certain industries and occupations in which workers were required to report with a view to compulsory transfer to more essential work. It was stated in 1944 that only one-fourth of Canada's output of war goods was going to Canadian armed forces.[1] Of the remaining three-fourths, destined for the other United Nations, a large part was delivered in the form of mutual aid.

Canada, it will be recalled, was one of the first among the United Nations to adopt a general control of wages as well as prices, imposing these controls at the end of 1941. Yet average wage rates increased by 7.6% from 1942 to 1943[2] compared with a rise of only 1.2% in the (subsidized) cost of living; though part of the rise in wage rates was matched, no doubt, by a rise in productivity. The value of retail sales increased slowly but steadily throughout 1943 and 1944, reflecting a continued rise in the volume of consumption, since the retail price index was kept practically constant.

United Kingdom

The people of the United Kingdom have been in the front line of the war; they have endured through bombing, blackout and blockade far greater hardships than their allies across the Atlantic; and they have been mobilized for war or war production to an extent involving a heavy cut in their standard of living.

The following table may serve as the basis for a brief review of the British war economy:[3]

United Kingdom (Table 1): National Expenditure at Current Market Prices

£(000,000's)	1938	1941	1942	1943	1944
1. War expenditure[a]	358	3,700	4,062	4,647	4,678
2. Other Government expenditure[ab]	456	517	535	538	543
3. Consumers' expenditure[c]	4,153	4,633	4,909	4,987	5,216
4. Capital expenditure at home[d]	785	394	397	352	287
5. Disinvestment abroad[a]	—70	—795	—666	—684	—655
6. Gross national product (or expenditure)	5,682	8,449	9,237	9,840	10,069

[a] Central Government and local authorities; excluding transfer payments.
[b] Excluding non-war capital expenditure, included in item 4.
[c] This is equal to the sum of items 1, 2 and 3 shown in Table 3 below.
[d] Gross expenditure on maintenance, replacement and increase of capital. Including non-war capital expenditure of central and local Government authorities.
[e] Net expenditure financed by sale of foreign assets and increase in overseas liabilities.

[1] *Monthly Review of Business Statistics* (Dominion Bureau of Statistics), September 1944, page 5.
[2] Bank of Canada, *Statistical Summary*, October-November 1944.
[3] Source: *An Analysis of the Sources of War Finance and Estimates of the National Income and Expenditure in the Years 1938 to 1944*. Cmd. 6623.

These figures are expressed in current money values and thus are affected by the rise in prices which has taken place since the beginning of the war. Official estimates designed to eliminate the effect of price increases and to show the change in the real volume of consumption are available only for consumption expenditure. In view of the important contribution which reduced consumption has made to Britain's economic war effort, these estimates are worth considering. They are designed to show the volume of expenditure not at current prices, as in line 3 of the above table, but at constant (1938) prices, and are thus indicative of the changes in the "physical" volume of consumption. They are given below in the form of indices on the basis of 1938 = 100.

United Kingdom (Table 2): Indices of Consumption Expenditure at Constant (1938) Prices[a]

1938	1939	1940	1941	1942	1943	1944
100	100	88	81	80	78	80

[a] Source: Cmd. 6623 (*op. cit.*).

By far the greater part of the wartime cut in consumption occurred between 1939 and 1941. From 1941 to 1943 the volume of consumption showed only a slight further decline and remained at approximately four-fifths of the pre-war level. The reduction in consumption, which occurred in spite of a sharp rise in total money income, came about partly through a rise in the prices of consumers' goods and services, but chiefly through taxation and saving (which served to finance the great bulk of Government expenditure). The manner in which total private income was absorbed by consumption in "real" terms, by the rise in prices, by taxation and by saving respectively, may be illustrated by Table 3.

Between 1938 and 1944, the proportion of taxation to income rose from 21% to 35%, while the proportion of saving rose from 7% to 19%. The increased rate of saving was, of course, largely a result of the direct limitation of available supplies of consumers' goods through rationing and production controls.

In view of the importance of having a rough measure of the real resources represented by money aggregates, *The Economist* has attempted to make adjustments for price changes affecting certain classes of national expenditure, similar to the official adjustment made in the estimates of consumption expenditure. The amounts shown in Table 1 above have been "deflated" in order to eliminate the effect of price increases since 1938. The resulting estimates of expenditure at constant (1938) prices reflect the "real" changes in the national

United Kingdom (Table 3): Disposal of Private Income

£(000,000's)	1938	1941	1942	1943	1944
1. Consumers' expenditure at constant (1938) prices[a]	3,607	2,920	2,894	2,798	2,898
2. Consumers' expenditure due to increase in prices	—	893	1,059	1,174	1,285
3. Indirect taxes on consumers' goods and services[b]	546	820	956	1,015	1,033
4. Other tax payments[c]	545	1,231	1,522	1,912	2,104
5. Saving[d]	365	1,491	1,619	1,765	1,698
6. Total private income (or outlay)[e]	5,063	7,355	8,050	8,664	9,018

[a] Adjusted for indirect taxes and subsidies.

[b] Central and local government indirect taxes, rates, etc., *less* subsidies, on consumers' goods and services.

[c] Income tax, war damage contributions, excess profits tax, stamp and death duties, etc. (Central and local government).

[d] Including sums set aside to meet accrued tax liabilities in excess of current tax payments. The greater part of item 5 is calculated as a residual and therefore depends on the accuracy of other estimates.

[e] This item includes transfer payments from the government to the private sector (amounting to £731 million in 1944). These transfer payments must be excluded, and government income from public property (£47 million in 1944) included, to obtain the "net national income at factor cost." Further, total indirect taxes *less* subsidies (£1,260 million in 1944) must be added to obtain the "net national income at market value." Finally, depreciation allowances (£475 million in 1944) must be added to obtain the "gross national product (or expenditure)" shown in Table 1.

economy. These unofficial estimates are necessarily rough and tentative, but "they are believed to be of the right order of magnitude."[1]

One interesting indication given by Table 4 relates to the increase in the gross national product in real terms. Between 1938 and 1944, this increase would seem to have amounted to 21%, though it is clear,

United Kingdom (Table 4): National Expenditure at Constant (1938) Prices[a]

£(000,000's)	1938	1941	1942	1943	1944
1. War expenditure	358	(2,960)	(3,130)	(3,440)	(3,400)
2. Other Government expenditure	456	(413)	(410)	(398)	(396)
3. Consumers' expenditure	4,153	3,364	3,322	3,239	3,322
4. Capital expenditure at home	785	(300)	(289)	(250)	(198)
5. Disinvestment abroad	—70	(—608)	(—483)	(—486)	(—454)
6. Gross national product (or expenditure)	5,682	(6,429)	(6,668)	(6,841)	(6,862)

[a] See *The Economist*, May 5th, 1945. *The Economist's* unofficial estimates for items 1, 2, 4 and 5, as well as the totals based on these estimates (item 6), are shown in brackets. Item 3 has been obtained by applying the official indices shown in Table 2, above, to the 1938 consumption expenditure.

[1] See *The Economist* (London), May 5th, 1945, pages 592-593. For the four years 1941-44, the price indices used by *The Economist* in "deflating" items 1 and 2 are: 125, 130, 135, 137½, while those used in "deflating" items 4 and 5 are: 131, 137½, 141, 145 (1938 = 100). The indices for items 1 and 2 are admittedly arbitrary and subject to a wide margin of error.

from what has been said above about these estimates, that this percentage cannot be taken to indicate more than the approximate order of magnitude.

Subject to the same reservation, we may use the figures in Table 4 to illustrate the real sources from which the cost of the war has been derived.[1] The excess of war expenditure in 1944 over that in 1938, amounting to £3,042 million at 1938 prices, can be regarded as the cost of the war in 1944. This cost was met by:

	£(000,000's) at 1938 prices	
Increased output (increase in item 6)	1,180	39%
Reduced consumption (decrease in item 3)	831	27%
Reduced non-war Government expenditure (decrease in item 2)	60	2%
Reduced domestic capital expenditure (decrease in item 4)	587	19%
Increased drafts on overseas capital (increase in negative item 5)	384	13%
Total (increase in item 1)	3,042	100%

All these calculations are tentative and approximate; nevertheless they illustrate well the main features of war economy in the United Kingdom compared, for example, with the United States and Canada. While in the United States and Canada practically the whole war expenditure was met out of increased production, the United Kingdom had to make severe cuts in civilian consumption and to draw heavily on capital assets at home and abroad.

The smaller increase in total current output in the United Kingdom compared with North America is easily accounted for by the special disabilities imposed on Britain through bombing, the blackout and the blockade, by the more intensive mobilization for military service, and by the fact that Britain started with a smaller margin of unemployed resources. The blockade which the enemy sought to impose by submarine warfare failed, but it did create an acute shipping problem, making it necessary to divert labour into relatively inefficient lines of production in order to replace essential imports. The effect of this on general economic efficiency offset to some extent the effects of large-scale industrial organization, labour training, increased mechanization and other wartime improvements in methods of production. Domestic production of low-grade iron ore, for instance, had to be greatly expanded in order to replace high-grade ore formerly imported.[2] Indeed, the total volume of industrial raw-material imports in 1943 was 60% lower than in 1938, while Britain's industrial production as a whole was about 40% above the level of 1938.[3] To save

[1] *Cf. The Economist*, May 5th, 1945, page 593.

[2] *Statistics relating to the War Effort of the United Kingdom*, November 1944, Cmd. 6564, pages 15 and 22.

[3] Statement of the Minister of Production, quoted in *Economic Journal*, June-Sept. 1944, page 169.

shipping space, the output of British agriculture was increased by at least 70% in terms both of calories and of protein.[1] On the other hand, the "service" industries catering to private consumers declined. Moreover, there was one essential form of production—namely, coal mining—in which output declined despite strenuous efforts to maintain it.

The number of industrial workers employed on military supply orders reached a peak in November 1943. The reduction which occurred thereafter was due to a further expansion of the armed forces in preparation for the 1944 campaigns.[2] It has been estimated that, "of the total supply of munitions produced by or made available to the British Commonwealth and Empire since the beginning of the war, about seven-tenths has been produced in the United Kingdom while about one-tenth has come from other Empire countries—making about four-fifths from British Commonwealth and Empire sources. The remaining one-fifth of the Empire supplies has come from the United States. Of this total American contribution nearly four-fifths has taken the form of lend-lease and the remainder the form of British cash purchases."[3] Chapter VI below summarizes the available information concerning the lend-lease deliveries, which included, of course, food and raw materials in addition to munitions.

The gathering of Allied armies in the British Isles prior to the invasion of western Europe was accompanied by a considerable increase in the volume of mutual aid granted by the United Kingdom, particularly to the United States. "The impact of vast forces preparing for the liberation of Europe requiring transport facilities, accommodation, day-to-day amenities and supplies in these densely populated islands, added no little to the real cost of war which the people of the United Kingdom have been called upon to bear."[4]

A large part of the cost of war to the United Kingdom has been provided by "disinvestment abroad," as shown in Tables 1 and 4 above. This does not, of course, include lend-lease and mutual aid received from the United States and Canada without cash payment. The two forms of external disinvestment—namely, sale of overseas assets and increase in overseas liabilities—are shown separately in Chapter VI, page 255. Among the assets sold were gold, bank balances, securities and direct investments overseas. The additional liabilities were incurred mostly in the form of sterling balances held by countries in the sterling area and elsewhere. In the period up to the end of 1941, the disinvestment occurred mainly through the sale of assets, while in the subsequent two-and-a-half years by far the

[1] Cmd. 6564, *op. cit.*, page 17.
[2] *Ibid.*, page 6.
[3] *Ibid.*, page 10.
[4] Mutual Aid, Second Report, November 1944, Cmd. 6570, page 2.

greater part took the form of increased liabilities. Evidently Britain's external disinvestment after the end of 1941 was, to a greater extent than before, concentrated in the sterling area and such countries outside that area as were prepared to accumulate sterling balances.[1]

Germany

Germany's military manpower losses forced her to intensify the mobilization of labour in 1943 and 1944 for the purpose not of increasing her war effort, but of preventing a precipitate decline. German officials had spoken before of "total war economy" as an accomplished fact; but in January 1943, after the defeat at Stalingrad, a state of "total mobilization" was decreed, and yet another measure of "total mobilization" was introduced in July 1944, after the Allied landing in France.

The decree of January 1943 required all men aged 16-65 and all women aged 17-45, if not already under arms or in essential war work, to register for compulsory labour. This "mass levy," as it was called, was characterized by the closing down of large numbers of retail shops.

The recruitment of foreign workers was pursued with increased vigour. At the end of 1943 the number of foreign civilians and prisoners of war working in the Reich appears to have reached a total of some 8 or 9 million persons. The number seems not to have increased further in the first half of 1944; apparently Germany reverted to her earlier policy of employing foreign workers in their own countries on German military orders, rather than moving them to the Reich.

With the loss of occupied areas, however, Germany was thrown back more and more on her own labour resources. A decree of July 25th, 1944 called for measures to "adapt the whole of the public life to the demands of total warfare." The Propaganda Minister was appointed "Reich Trustee for Total Mobilization for War." The age limit for the drafting of women into war plants was raised from 45 to 50. Theatres, music halls and other places of entertainment except cinemas were closed; the printing of all literature except political and technical publications was prohibited; many newspapers were stopped. These and other examples of "total mobilization" in the summer and autumn of 1944 indicate that there was little non-essential activity left to eliminate. The principal effect of the total war decrees of 1944 was a thorough comb-out of the administrative apparatus in industry as well as in local and central government. The need for more manpower for war and war production evidently outweighed the risk of

[1] Further reference to Britain's overseas assets and liabilities is made in Chapter IV (page 195) and Chapter VI (page 255).

weakening the control of production and labour, which had already become increasingly difficult as a result of the Allied air offensive.

Indeed, the heavy and almost continuous air raids from the spring of 1943 onwards caused profound changes in the German war economy. There was a complete reversal of the policy of industrial concentration which had been adopted in 1942. The air offensive led to a policy of the widest possible dispersal of war production. Plants for the manufacture of component parts were in many cases transferred from the big cities to remote villages, and were often established in the smaller factories which had been closed down in the concentration drive of 1942. An increasing number of vital plants, especially assembly shops, were set up underground (frequently in disused mines, railway tunnels, etc.). Dispersal inevitably entailed some loss of the advantages of mass production, and it placed an additional burden on the transport system. Instead of remaining on the same conveyor-belt, materials in the course of manufacture had to be transported from one small production unit to another before reaching the central assembly plant.

But there were certain industries which could not easily be dispersed. Among them were the synthetic oil plants on which Germany had come to rely for most of her oil supply even before the loss of Roumania; and on these the Allied air forces concentrated many of their attacks.

The labour-mobilization measures already mentioned may have succeeded in keeping up numerically the labour force engaged in German industry. But the allied bombing offensive—apart altogether from the dislocation, the irreparable destruction and the uneconomic dispersal which it caused or occasioned—had two important effects on the output and supply of labour. First, an increasing proportion of the labour force had to be diverted from current production to repair and reconstruction work of one kind or another. Secondly, every raid, by destroying homes, disrupting transport and causing the loss of records, gave tired or unwilling workers an excuse or a pretext for not reporting to work. Under these conditions the compulsory labour decrees became more and more difficult to enforce.

Food ration cards, together with the canteens and soup kitchens attached to war plants, came to be used increasingly as a means of exercising control over labour. As will be seen in Chapter III, food rations remained adequate, at all events until the summer of 1944. In the Reich itself, in contrast to the occupied territories, the collection of agricultural produce from the farmers continued to be strictly and, on the whole, successfully controlled. It was lack of transport rather than of farm deliveries that placed an increasing strain on the urban food supply. In the earlier war years it had become a very common practice among city dwellers to grow their own

poultry and rabbits; but this had to be discouraged in 1944 in order to conserve feeding stuffs. The whole food outlook for Germany was radically altered in the summer of 1944 by the loss of such areas as France and the Balkans which had not only fed the German armies of occupation, but also sent food to Germany. Thereafter the German army had to rely more and more on food grown at home.

The output of consumers' goods other than food was restricted to an amount barely sufficient to meet the special requirements of air raid victims. The ordinary clothing ration card was suspended, and even the special cards issued to bombed-out persons were not always honoured. What remained of industrial production for civilian needs was transferred in September 1943 from the jurisdiction of the Minister of National Economy to that of the Minister of Munitions and War Production.

The housing problems arising from the bombing, and from the forced migration of industry and industrial workers, were met in part by the erection, largely with the help of government subsidies, of huts made from salvaged materials and of prefabricated wooden barracks and bungalows, of which considerable quantities were imported from Finland up to the middle of 1944.

The special burden which the transport system had to bear in what the Germans called their "air war economy" (*Luftkriegswirtschaft*) is indicated by the 30% increase in railway passenger traffic between 1942 and 1943.[1] It is reflected also in regulations prescribing special permits for trips beyond a certain distance, in the compulsory diversion of freight traffic from railways to waterways, and in a host of other decrees and regulations. The aerial bombardment tended both to disrupt transport facilities and to increase the demands made upon them by relief and evacuation trains, as well as by the dispersal of industries mentioned before. Any increase which may have occurred in the rolling stock available inside the Reich as a result of the contraction in the area under Germany's control was evidently quite insufficient to alleviate the strain on the railways. The increasing shortage of transport led to a deliberate movement towards regional self-sufficiency. For instance, the growing of potatoes—a bulky crop which had become of prime importance for human consumption—was concentrated in the neighbourhood of the big cities, and was discouraged in the traditional surplus areas of cultivation in eastern Germany. In the autumn of 1944 it was reported that even the different war fronts were being made as "autarkic" as possible in respect of munition and other supplies.[2]

After the capitalization of the house rent tax and the cessation of

[1] *Cf.* Chapter VII, page 289, below.
[2] *The Economist* (London), November 4th, 1944.

advance payments on Government orders in 1942,[1] the years 1943/44 saw no change of any importance in the financial policy of the Reich. No notable efforts were made to increase taxation, to shift Government borrowing from the banks to the public or to arrest the rapid expansion of the note issue. In the drive to reduce the administrative apparatus, income-tax declarations and assessments were virtually abolished in 1944; with certain exceptions, people were required simply to pay the same amount of tax as they had paid in the previous year.

While the volume of money expanded continuously, money was to an increasing extent abandoned as a medium of exchange. A large number of barter shops were set up in 1943 under party or municipal auspices, despite the objections of the Minister of National Economy, who feared that the official sanctioning of barter would further weaken the public's confidence in the currency.[2] Barter had been gaining in popularity even before, and, with the establishment of these shops where people could exchange their portable belongings, it became organized and much more widespread. No doubt the authorities intended the barter system to mitigate the hardships resulting from the ban on the manufacture of consumers' goods.

Germany's military defeats seriously affected her domestic war economy by causing the loss of vital raw-material sources outside her frontiers. There was one basic material—namely, coal—of which Germany produced enough at home. Indeed, she was able to increase her output steadily and substantially during the war years up to 1944, mainly in the Silesian mining region annexed from Poland in 1939. It should be kept in mind, however, that her requirements of coal, particularly for the synthetic manufacture of oil and other products, were also greatly increased.

Of Germany's external raw-material sources, one of the first to be barred to her was the North African supply of phosphates, which she lost in 1942. The resulting shortage of fertilizers in German agriculture was aggravated by a shortage also of home-produced synthetic nitrogen. The recapture by the Soviet armies of the Nikopol manganese mines in the Ukraine in February 1944 was a severe blow to the German steel industry. Further blows came in the spring of 1944 with Turkey's embargo on chrome exports and Spain's drastic limitation of shipments of wolfram to Germany. Still more serious were the consequences of the military events of the summer of 1944, through which Germany was deprived of access to a large number of vital products, ranging from Roumanian oil to French aluminium. From Sweden, also, Germany was virtually cut off, as

[1] See Chapter IV, pages 171 and 186, below.
[2] See H. W. Singer: "The German War Economy," in *Economic Journal*, April, 1944.

the Swedish Government, in August 1944, withdrew marine insurance facilities from Swedish ships trading with Germany and, in the following month, closed Sweden's Baltic ports to all foreign ships.

German-Occupied Europe

The "New Order" programme which Germany launched in 1940 had as one of its objectives the integration of the European economy. In 1941 and 1942 Germany abolished exchange restrictions and tariff barriers in her relations with the Netherlands and the "Protectorate of Bohemia and Moravia." Late in 1942 she abolished tariff duties on imports from occupied countries. This was a measure which, though mainly intended to keep down the prices of imported goods on the German market, could well be represented as a step towards the New Order.

The actual tendency after 1942 was exactly the opposite: the transport situation, which was steadily deteriorating, led to a progressive disintegration of the economy of German-occupied Europe. The transport shortage was due, on the one hand, to the reduction in the supply of transport facilities (because of military losses and destruction, curtailment of road traffic as a result of oil and rubber shortages, stoppage of sea and coastwise shipping routes, etc.) and, on the other, to the additional wartime demands made on the transport system (military movements, evacuation, dispersal of factories, etc.). In order to limit the pressure on transport, maximum distances had to be fixed for the shipment of goods. "In the occupied territories more and more closed transportation systems have developed, in contrast to the early period of occupation, when the supply lines extended all the way into the interior of Germany."[1] The German authorities were thus driven to adopt a policy deliberately designed to "split the continent into more or less self-sufficient trade areas."[2]

It was transport that formed the bottleneck for shipments of oil, wheat and other badly needed products from the Balkan area, a bottleneck which, incidentally, was tightened early in 1944 by the mining of the Danube by Allied aircraft. The transport difficulty was the main reason why Germany was not able to cover more than about one-third of her oil requirements from Roumanian sources, and why Denmark and Finland, for example, were forced to make synthetic motor-oil from peat.

The transport problem was responsible also for aggravating the food shortages in the cities of the occupied and satellite countries, even when farmers in the countryside had surplus food to spare. It

[1] *Frankfurter Zeitung*, April 20th, 1943, quoted by Herbert Block: "European Transportation under German Rule," in *Social Research*, May 1944, page 225.
[2] Herbert Block, *op. cit.*, page 241.

was the transport shortage that caused food conditions to vary so widely between the different parts of a country such as France.

Besides production and transport difficulties, there was yet another general factor tending to reduce the urban food supply, and that was the reluctance of farmers to sell their products. This reluctance was due in varying degrees to the farmers' inability to buy anything useful with the money received; expectations of price increases for the products concerned; and unwillingness to support the German war economy, since the farmer could not determine what part of his produce, if sold through the regular channels, would go to feed his compatriots in the cities and what part would go to the army of occupation or to Germany. Farmers therefore tended to hoard their products, to sell them on the black market, to feed their grain to livestock or to increase their own consumption. A mass of decrees and regulations goes to show that the control of farm deliveries was one of the most stubborn economic difficulties the Germans encountered, not only in the occupied territories, but also, though less directly, in the Balkan satellite countries. In Poland and the Baltic countries a common method of collection was to impose a quota on every farmer, and to sell salt, tools, horse-shoes and such clothing as was available only to farmers who delivered their quotas in full. There and elsewhere drastic penalties were imposed for non-delivery.

From 1942 on, the inflation of prices in the areas under German control, especially in southeastern Europe, caused increasing concern to the German trading authorities, who complained that this price rise shifted the terms of trade and the clearing accounts against Germany, since the German official domestic price level was kept practically constant. The Roumanian wheat price, for instance, at the prevailing rate of exchange, rose to about 4 times the German domestic price of wheat. In the German press in 1943 there appeared suggestions that Germany's clearing debt was not a real one, since it was due merely to the rise in prices abroad; and the countries concerned began to fear that Germany might repudiate this debt. The German authorities seemed to attach importance to keeping the exchange rates nominally stable; but they induced some countries to set up "price equalization funds" through which, in effect, subsidies were granted on exports to Germany, while any imports obtained from Germany were subject to surcharges. In fact, the German Minister of National Economy announced in February 1944 that Germany had "adopted an elastic price system for her export goods," raising her export prices by varying amounts according to the country of destination.

The inflation of prices, as already mentioned, was particularly marked in the southeastern area. In Hungary in the summer of 1943, the whole wage and price level was raised at one stroke by 20-40%

by Government action. German newspapers often blamed the south-eastern satellites—Hungary, Roumania and Bulgaria—for administrative weakness and laxity in their price controls. By far the worst inflation, however, occurred not in a satellite but in an occupied country—namely, Greece. German writers pointed out that Greece, at first, was under joint German-Italian occupation. A more fundamental explanation was, of course, the central bank's financing of German occupation costs, coupled with a desperate scarcity of food and other supplies in a country which had been highly dependent on sea-borne trade and had lost its best farming region to Bulgaria. Germany found Greece of little economic value, and hence took little interest in her supply situation or in her economic and financial administration.

The only country in Germany's orbit which, judging by the official indices, kept its price-level stable in 1943 and 1944—namely, Denmark—was one in which the supply situation, at least as regards food, remained better than anywhere else in German-occupied Europe. Denmark launched an anti-inflation programme in 1942 including a "war boom tax" on incomes, an excess profits tax, increased indirect taxation, compulsory savings, and sterilization of Government loan proceeds in an inactive account at the central bank. This did not prevent a continued expansion of the money supply, but it did tend, apparently, to check the inflationary effect of German expenditures and to "make room" for Germany's demands on the country's output.

Germany's demands were far greater in the case of France, Belgium and the Netherlands. The French food supply was reduced by heavy requisitions for export to Germany as well as for the army of occupation. Both France and Belgium are estimated to have produced from three-fifths to two-thirds of their total industrial output in 1943 for German account. In both countries, however, industrial output was far below the pre-war level; in France it is reported to have fallen in 1943 to about 55% of the 1938 level. Coal production under the German occupation increased in France above the pre-war level, while it declined in Belgium and the Netherlands.

In the late summer and autumn of 1944, when France and Belgium had been almost entirely liberated, grave damage was inflicted on the Netherlands economy by the flooding (in some places with salt water), of extensive areas of fertile farm land. In September the Netherlands railway workers, in order to speed their country's liberation, began a strike which, as it paralyzed economic activity, had practically the effect of a general strike. The Germans took over the railways, but used them solely for military traffic and refused to transport food and coal for civilian consumption. Besides, the war front cut off the southeastern coal mining region from the rest of the country. The situation became particularly grave in the cities

of western Holland, where large numbers of people were reduced to starvation by the end of 1944, when the railway strike was still continuing.

Italy

The southern and central parts of Italy, which were occupied by Allied armies from July 1943 to the end of 1944, suffered considerable devastation not only by land warfare and aerial bombing but also by extremely thorough and methodical German demolitions. Between 60 and 70% of the industrial plants in these areas are reported to have been destroyed.[1] The German demolitions in the Naples region, for instance, affected chemical factories, tanneries, breweries, canning plants, etc., as well as the harbour installations and public utilities. The flooding of the Pontine marshes also left serious economic consequences behind. But the chief objective of the German scorched-earth policy was the electric power supply, on which practically all Italian railways and 90% of Italian industry normally depended for their energy. Generating stations, transformers and transmission lines were systematically destroyed. Lack of electric power was therefore one reason, in addition to lack of transport and raw materials, why in most cases even the factories that were still intact could not resume production. The result was considerable unemployment. In September 1944 it was estimated that in Rome—a city whose population had swollen to one-and-a-half million through the influx of refugees—there were about 200,000 persons who could not find regular work.[2]

By the end of 1944 the electricity supply had been partly restored, but it was still only about one-third of normal. A great deal of imported equipment was needed to reconstruct the demolished power plants. The railway system was to a large extent paralyzed by the lack, not only of power, but also of rolling stock, most of which the retreating Germans had moved northward. Transport, indeed, was at the root of most economic troubles in the Allied-occupied zone. Military traffic absorbed most of the available transport facilities. While Rome was very short of food, the food-producing regions of Sicily and the southern mainland had local surpluses which could not be moved for want of transport. This difference in supply conditions was partly reflected in the official bread ration, which during the second half of 1944 was 300 grammes per day in the south and 200 grammes in Rome and north of Rome. Apart from the food difficulties, perhaps the gravest civilian deficiency was in leather and footwear.

The rate of exchange fixed by the Allied authorities placed too low

[1] *New York Times*, January 21st, 1945.
[2] *The Times* (London), September 8th, 1944.

a value on the Italian lira.[1] Prices in the local currency immediately rose to meet the new rate, and continued to rise under the influence of commodity shortages on the one hand and Allied note issues on the other. In the summer of 1944 the total note circulation in the whole of Italy was officially estimated at 260,000 million lire, of which 40,000 had been issued by the German and 35,000 million by the Allied military authorities;[2] this total may be compared with a note circulation of 96,000 million lire in July 1943 and 24,000 million at the end of 1939. Difficulties of supply, transport and administration stood in the way of an effective operation of the rationing system. Black markets flourished, and barter was becoming increasingly popular. The Allied authorities brought in supplies not only for their armies but also for the civilian population; some food and clothing came from the United States; some coal arrived from Britain. But these imports were limited by the shortage of shipping, and they were small in relation to the large requirements resulting from the destruction wrought in an area which was even normally far from self-sufficient.

Liberated Europe

In France the economic problems following upon liberation were, on the whole, less distressing than those arising from the war in Italy, thanks partly to the more evenly balanced character of the French economy and partly to the speed of military events. The German troops had no time for such extensive demolitions as they carried out in Italy, though they did succeed in wrecking many of the ports. Large-scale destruction due to military operations was confined, in the main, to Normandy, Brittany and the Vosges region. It has been estimated that 80-85% of French industrial plant remained intact. The French transport system, however, suffered very severely from Allied bombing, French sabotage and German demolitions. Being electrified to a much smaller extent than the Italian system and therefore less dependent on a centralized power supply, it may have proved less vulnerable. Yet the disruption of transport was very great, and the difficulties which it caused were frequently interdependent. The most serious immediate deficiency in the transport system was a shortage of locomotives. Until this could be remedied to some extent by repairing damaged engines and importing new ones from America, it was difficult even to transport the materials needed for the reconstruction of thousands of railway bridges. And until at least certain key bridges were repaired, it was impossible to transport the pit-props to the mines which produced the coal to heat the availa-

[1] See Chapter IV, p. 223, below.
[2] *The Times* (London), October 3rd, 1944.

ble locomotives. Although the coal mines—situated mainly in the North—were undamaged, their output at the end of 1944 was less than three-fourths of the 1943 level, partly because of the inadequate supply of props from the southwest. One-third of the reduced coal output was being used for military needs.[1] The scarcity of coal forced the Government in January 1945 to suppress all steam-driven passenger trains and to restrict further the supply of gas and electricity. Some industries, such as beet-sugar factories, were hampered mainly by the coal shortage, while others, such as cotton manufacture, were more directly affected by the lack of raw materials. There were, in consequence, about 1,000,000 unemployed workers in France in the autumn of 1944. By the end of the year, however, the number had declined to about 600,000.

It has been estimated that the Germans absorbed more than 30% of France's output of food during the occupation. Naturally, therefore, the cessation of German requisitions relieved the strain on the French food supply; but the main problem was to transport the food to the cities. Moreover, German requisitions had left behind them two lasting effects: a shortage of draft animals on the farms and an abnormally low output of milk and dairy produce due to excessive slaughter of herds during the occupation period. It was in respect of fats that the French food supply after the liberation was most seriously deficient. In general, the food shortage in most cities during the winter 1944/45 was more serious than it had been in previous years.

In order to mop up some of the surplus purchasing power created under the occupation regime, the Government floated a large Liberation Loan during the last quarter of 1944, which brought in 127,000 million francs in cash and 33,000 million in Treasury bills and bonds previously outstanding. The note circulation of the Bank of France, after reaching a maximum at 632,000 million francs on October 5th, 1944, dropped to 572,000 million at the end of the year, compared with 500,000 million at the end of 1943 and 149,000 million at the end of 1939.

The official exchange rate of the French franc in terms of U.S. dollars and pounds sterling overvalued the franc and thus limited the purchasing power of Allied military personnel in France. Moreover, direct restrictions were enforced with the object of keeping down the expenditure of Allied soldiers, especially in retail shops. With a view to facilitating the replenishment of stocks and the renewal of equipment, France suspended all import duties as from December 15th, 1944. Imports were limited, however, primarily by the pressure of military demands on the available shipping and port facilities. In January 1945 a plan was established providing for sub-

[1] *New York Times*, January 18th, 1945.

stantial raw-material shipments to France in order to make use of French labour and industrial plant for Allied war requirements.

In Belgium, transport was disrupted not so much by damage to the railways, as by the wrecking of the canal system through destruction of locks, sluices and barges. The collection of crops from the farmers presented some difficulty, as in France. But the domestic harvest, unlike that of France, could not cover more than a few months' requirements. Early in 1945 Belgium became dependent on imports for its bread supply. Coal production declined to about five-eighths of what it had been under the German occupation. In order to ensure adequate supplies for military needs, the Allied authorities took over control of the distribution of coal in January 1945.

A remarkable measure of monetary policy was taken in Belgium in October 1944, when the Government called in all bank notes of 100 francs and over and re-issued new notes to the public at the rate of not more than 2,000 francs per person. The amounts retained by the Government were blocked, as were also all bank balances except for 10% of the total or the amount held on May 10th, 1940, whichever was larger. It was intended to release a part of the blocked accounts as and when the supply situation improved, and permanently to absorb the rest later by special tax or loan. As will be shown in Chapter IV (page 209), the volume of currency was sharply reduced by this operation, the main purpose of which was to remove that amount of monetary demand which could not be met in goods and services without causing an increase in prices. Though deflationary in respect of the money supply, the measure was primarily anti-inflationary in respect of the price level. As in other German-held territories, the expansion of money during the occupation period had been far greater than the rise in controlled prices and wage rates.

In Greece, all controls had failed; both monetary inflation and price inflation had gone to such extremes that a completely new currency had to be introduced after the end of the German occupation in the autumn of 1944.[1] The extent of the inflation is sufficiently indicated by the rate at which the old currency was exchanged for the new: namely, 50,000,000,000 old drachmae = 1 new drachma.

Soviet Union

The following figures concerning Government receipts and expenditure illustrate some of the main features of Soviet war economy.

Before the war, the turnover tax was by far the largest source of revenue; between 1932 and 1940 it produced from one-half to three-fourths of total revenue. Its yield declined sharply from 1941 to 1943, despite an increase in the rates of taxation. As the turnover tax is not levied on war production but only on consumers' goods, this decline in yield reflects a sharp cut in civilian consumption.

[1] See Chapter IV, page 209, below.

U.S.S.R.: Government Receipts and Expenditure

Roubles (000,000,000's)	1940	1941[a]	1942	1943[b]	1944[a]
Receipts	180.2	216.8	.	210.0	245.6
Of which: Turnover tax	105.8	124.5	105.9	71.1	80.2
Expenditure	174.3	216.0	.	210.0	245.6
Of which: Defence	56.0	70.9[c]	108.4	124.7	128.4
National economy	57.1	73.2	.	31.1	44.7
Social and cultural development	43.0	47.9	.	37.2	51.4

[a] Budget estimates.
[b] Provisional results.
[c] The actual defence expenditure in 1941 is stated to have exceeded the budget estimates by 20,000 million roubles.

The turnover tax accounted for only one-third of total receipts in 1943. The other two-thirds consisted of loans, direct taxes, and profits of State undertakings. These last were increased by a vigorous drive for greater efficiency and productivity. Labour discipline was tightened up in various ways. Military rank and martial law were introduced, for instance, among the personnel of the railways. As in other belligerent countries, workers in war industries were forbidden to change their jobs without permit; restrictions on hours of work were suspended; and industrial conscription was introduced early in 1942 for men aged 16 to 55 and women aged 16 to 45.

But the most strenuous efforts to maintain production could not, in the nature of the case, entirely offset the loss of population and natural resources captured by the enemy. The greater part of the Ukraine, it may be recalled, was still under enemy occupation during most of 1943; and when, for example, the Donets Basin was recaptured in September 1943, it took time and labour to put coal mines back into working order and to restore other productive capacity. It is therefore not surprising that total State expenditure in 1943, as shown in the table above, was smaller than the budget estimate for 1941. The decline was probably greater than these figures suggest, as defence expenditure is known to have exceeded the budget estimate in 1941 by 20,000 million roubles. Moreover, there was probably some decline in the commodity value of the rouble during this period.

Apart from the reduction in consumption, another important source from which the economic requirements of the war effort were met was the reduction, shown in the table above, in State expenditure for "national economy" and for "social and cultural development." The former represents, in the main, capital outlay; the latter, outlay for "consumption" such as welfare services and education. As the actual expenditure on these items in 1941 is not known, it may be better to compare the 1940 figures with those for 1943. The comparison shows that, of the net increase in defence expenditure between 1940 and 1943 (68,700 million roubles), nearly one-half (31,800 million) was provided by the reduction in expenditure on national

economy and social and cultural development. The figures given do not include lend-lease and similar aid received from the United States, the United Kingdom and Canada.

It is interesting to note that the budget estimate for 1944, compared with the actual results for 1943, shows a relative stability in the level of war expenditure, similar to that observed in the United States and the United Kingdom in those years. At the same time the estimates indicate a sharp recovery in expenditures for economic, social and cultural development in 1944, which was partly due to a grant, included under these items, of 16,000 million roubles for the rehabilitation of liberated areas. The increase in the budget total, as well as in the expected yield of the turnover tax, reflected to some extent the increase in population and resources under Soviet control as the enemy was driven out of Soviet territory.

Certain of the allocations included in the 1944 budget under "National Economy," compared with the corresponding preliminary figures of actual expenditure in 1943, are shown below.[1] The allocations for 1944 include portions of the special grant just mentioned.

Roubles (000,000,000's):	1943 (Preliminary figures)	1944 (Budget estimates)	Percentage increase:
Industry	15,100	24,700	64%
Agriculture	4,700	7,200	53%
Transport and communications	4,800	6,300	31%
Trading and storage	800	1,200	50%
Communal economy and housing	1,100	1,700	55%

The fact that the allocation for transport and communications shows the smallest percentage increase is not as surprising as it may seem, since most of the rolling stock had been successfully removed from the invaded regions, and since the Germans needed the railways for their retreat and generally had little time to damage them. When given time, however, the work of German demolition squads was extremely thorough and destructive. The willful wrecking by the retreating armies of buildings, plant and equipment, quite apart from damage incidental to military operations, completely devastated a large proportion of the invaded territory.

The allocations for agriculture, as shown above, were much smaller than those for industry, but it may be recalled that collective farms, unlike industrial establishments, are not State undertakings, and are financed in part by their own savings and their own special bank, as well as by budgetary grants. Soviet agriculture suffered enormously through the invasion of the country's most fertile and highly de-

[1] Source: *International Labour Review*, August 1944, page 220.

veloped farming area. Accordingly, the measures taken in 1943 and 1944 with a view to the rehabilitation of the liberated territories paid particular attention to agriculture.

Thus, a Decree of August 21st, 1943, providing for "urgent measures for the economic rehabilitation of areas liberated from German occupation," was mainly concerned with problems of agricultural reconstruction, though it also dealt with housing, railways, education, etc.[1] It reaffirmed the authority of a Committee for the Rehabilitation of the Reconquered Areas which had been set up by the Council of Peoples' Commissars earlier in the year, and which was now charged with the supervision of all measures taken under this decree. It laid down detailed instructions, for instance, for the return of evacuated livestock from the eastern provinces to the collective farms of the liberated areas in the autumn of 1943. This mass migration of farm animals was a spectacular and complicated operation; but it affected only a small fraction of the pre-war livestock population of these areas; the greater part was lost through the occupation.

The depletion of livestock was one of the two gravest problems facing the agricultural economy of the Ukraine. The other was the severe shortage of tractors and similar equipment on which depended the highly mechanized system of large-scale farming developed during the 'thirties. The Decree of August 21st, 1943 devoted special attention to the reconstruction of the agricultural machine and tractor stations and to the return of tractors from the East. As in the case of livestock, however, the tractors that were returned formed only a small proportion of the total number in operation before the war; the rest had been mobilized for military purposes or destroyed or taken away by the enemy. All tractor-making plants had been converted to the production of tanks; two of the largest of these plants were destroyed in the battles at Kharkov and Stalingrad. The lack of tractors appears to have made it necessary to revert, in some measure, from large-scale collective farming to a system of small individual holdings.[2] Retrogression to more primitive methods had already become evident under the German occupation, when the shortage of oil alone was such as to make it impossible to maintain the previous degree of mechanization. After the liberation, great stress was laid on the breeding of draft animals, and particularly of steers, horse-breeding being a slower process. A Decree of March 15th, 1944 prohibited the mobilization of farm horses by the army. Some armament plants are reported to have been partly reconverted to the production of agricultural implements in the latter half of 1943.[3]

[1] For a detailed summary of this decree, see *International Labour Review* (I.L.O.), January 1944, page 61.
[2] *Cf. The Economist* (London), April 8th, 1944.
[3] *Cf. The Economist* (London), March 18th, 1944, Supplement.

The removal of industries from the invaded areas in 1941 and 1942 was described in the last edition of this *Survey*. In 1943 and 1944 no large-scale attempt was made to return these industries to the liberated provinces. Industrial development was stimulated in the East, particularly in the Urals, not only by the transfer of factories from the West but also by the opening up of local resources to replace those captured by the enemy. Thus the mining of manganese ore in the Urals was greatly expanded in an effort to compensate for the loss of the Nikopol mines. Iron and steel, coal, aluminium and waterpower were among the most important resources developed in the Urals and farther east in Siberia. The new blast furnaces erected at Magnitogorsk have been described as the largest in Europe.

Great as the advances were in the East, they could not make up for the loss of the industrial capacity of the Ukraine. As soon as the Ukraine was recaptured, the reconstruction of its industries was taken in hand, while the capital outlay devoted to the eastern regions declined from 1943 to 1944. The industrial reconstruction of the Ukraine is, of course, a task that will require years for its completion.[1] Although, for instance, the rehabilitation of the coal mines of the Donets Basin, recaptured in September 1943, was undertaken with all possible speed, the Germans, by flooding the mines, had left them in such condition that coal production in the Donets Basin was no more than 13% of the pre-war level in March 1944, and was expected to reach only 27% of that level by the end of 1944.[2] The mines whose output was not expected to reach the pre-war level before the end of 1945, at the earliest, included those producing coking coal, which in that area comes from the deepest seams. The resumption of steel production in the Ukraine was therefore inevitably delayed, quite apart from the time and labour required to put the wrecked steel mills back into working order.

According to the Decree of August 21st, 1943, one of the first steps in the reconstruction of the liberated areas was to be the erection of local factories for the production of building materials and pre-fabricated houses. The decree stated that these factories had to be in operation before the end of 1943. Reliance on local materials was necessary in order to save transport.

The case of the building-materials industry illustrates the general dependence of economic reconstruction on the industries producing capital goods. The basic heavy industries of the Soviet Union were to a great extent concentrated in the Ukraine and, since blast furnaces, cement kilns and similar heavy plant could not be removed, those were the industries that suffered most from the invasion. In

[1] American-Russian Institute, *The U.S.S.R. in Reconstruction* (New York, 1944), page 94.

[2] U.S. Department of Commerce: *Foreign Commerce Weekly*, July 8th, 1944.

general, the light consumers' goods industries, which were concentrated largely in the manufacturing region stretching from Moscow east to the Volga, suffered far less, though a number of textile factories south and west of Moscow were destroyed, and the sugar refining industry in the Kiev area was almost entirely lost.[1]

In relation to the economic problems of the Soviet Union, some interest attaches to the armistice conditions accepted by Roumania on September 12th, 1944, by Finland on September 19th, 1944, by Bulgaria on October 28th, 1944, and by Hungary on January 20th, 1945. Roumania, Finland and Hungary were each required to pay reparations to a value of 300 million United States dollars in commodities to be delivered over a period of six years. These payments are to be made to the Soviet Union, except for 100 million U.S. dollars to be paid by Hungary to Czechoslovakia and Yugoslavia. The precise nature and timing of the reparation deliveries are to be defined in special agreements. In the armistice terms it is merely stated that Roumania is to pay in "oil-products, grain, timber products, sea-going and river craft, sundry machinery, etc."; Finland in "timber products, paper, cellulose, sea-going and river craft, sundry machinery"; and Hungary in "machine equipment, river craft, grain, livestock, etc." An annex to the Hungarian armistice agreement provides that "these deliveries will be calculated at 1938 prices, with an increase of 15% for industrial equipment and 10% for other goods." It has been reported that the Finnish and Roumanian deliveries are to be valued on a similar basis. In the case of Bulgaria the armistice provides for "such reparation for loss and damage caused by the war to the United Nations, including Greece and Yugoslavia, as may be determined later."

Apart from reparations, the armistice terms provide in all cases for the restitution of property belonging to the Soviet Union and other United Nations, and for the placing of merchant ships under the control of the Allied (Soviet) High Command.

In addition, the armistice terms contain the following clauses:

Roumania: "The Roumanian Government must make regular payments in Roumanian currency required by the Allied (Soviet) High Command for the fulfillment of its functions and will in case of need ensure the use on Roumanian territory of industrial and transportation enterprises, means of communication, power stations, enterprises and installations of public utility, stores of fuel, fuel oil, food and other materials, services in accordance with instructions issued by the Allied (Soviet) High Command." (Article 10.)

"The Roumanian Government will withdraw and redeem within such time limits and on such terms as the Allied (Soviet) High

[1] *The U.S.S.R. in Reconstruction, op. cit.*, pages 93, 96.

Command may specify, all holdings in Roumanian territory of currencies issued by the Allied (Soviet) High Command, and will hand over currency so withdrawn free of cost to the Allied (Soviet) High Command." (Annex C.)

Finland: "Finland will make available such materials and products as may be required by the United Nations for purposes connected with the war." (Article 19.)

Bulgaria: "The Government of Bulgaria must make regular payments in Bulgarian currency and must supply goods (fuel, foodstuffs, etc.), facilities and services as may be required by the Allied (Soviet) High Command for the discharge of its functions." (Article 16.)

Hungary: "The Government of Hungary will make regular payments in Hungarian currency and provide commodities (fuel, foodstuffs, etc.), facilities and services as may be required by the Allied (Soviet) High Command for the fulfillment of its functions as well as for the needs of missions and representatives of the Allied states connected with the Allied Control Commission.

"The Government of Hungary will also assure, in case of need, the use and regulation of the work of industry and transport enterprises, means of communication, power stations, enterprises and installations of public utility, stores of fuel and other materials in accordance with instructions issued during the armistice by the Allied (Soviet) High Command or the Allied Control Commission." (Article 11.)

Middle East and India

This whole area was affected by certain common influences during the period under review. It became a base for Allied operations, and Allied military expenditure, financed largely by additional means of payment furnished by the local monetary authorities in exchange for foreign balances, made considerable demands on local goods and services. At the same time, there developed a great shortage of imported goods, especially as a result of the closing of the Mediterranean to Allied merchant shipping in 1941-42. The result was a sharp rise in prices, which was accentuated by a tendency among merchants and farmers to withhold goods from the market in anticipation of further price increases. Taxation and administrative controls were wholly inadequate to absorb the additional monetary purchasing power or to hold it in check so as to "make room" for Allied needs. Owing to the low standards of consumption and productivity prevailing throughout this area, the margin available to meet those needs was in any case very limited.

The extent to which prices increased differed in the various countries, though Egypt, Palestine and India showed a certain uniformity

in that their wholesale-price and cost-of-living indices in 1944 were all about two-and-a-half to three times as high as in the first half of 1939. In Syria, Iraq and Iran, however, the available indices showed a five- to ten-fold increase in prices compared with the pre-war level.[1] As exchange rates were kept unchanged, the rise in prices increased the cost in foreign as well as in domestic currencies of the local goods and services purchased by the Allied armies, and thus helped to swell the external monetary reserves of the countries concerned. These reserves took principally the form of sterling balances, especially in the case of India, Iraq, Palestine and Egypt, which are members of the sterling area.

From the summer or autumn of 1943 onwards the rise in prices was either slowed down, as in Egypt, Syria and Iran, or stopped, as in Palestine, Iraq and India. The shipping situation improved, thanks to the opening-up of the Mediterranean, and imports began to recover. Gold was shipped to most of the countries in this area and sold to the public in order to absorb some of the excess purchasing power. Taxes, rationing schemes and price controls were introduced or tightened up. Another important reason for the change in price movements was the fact that, with the change in the military situation, Allied military expenditure in the Middle East, though not in India, began to decline.

The war-time economic problems of the Middle East were a concern of the Middle East Supply Centre which was set up in Cairo by the British Government in 1941 and transformed into a joint Anglo-American organization in 1942. The Centre sought to promote a certain measure of regional planning, with the object, among others, of alleviating the shortage of imports by rendering the area more self-sufficient. It endeavoured to stimulate wheat growing; it proposed schemes of irrigation, land reclamation and destruction of pests; it strove to co-ordinate industrial developments in the various Middle East countries. Representatives of these countries met at a number of conferences to consider (in 1943) agricultural problems, rationing, transport arrangements, grain collection schemes, and (in April 1944) measures to combat inflation.

One of the principal functions of the Middle East Supply Centre was to secure shipping and imports for the essential minimum needs of the area and to allocate them equitably among the countries concerned. At the beginning of 1945 the control of the Middle East Supply Centre was withdrawn from all imports except those of certain goods making heavy demands on shipping, such as cereals and fertilizers, as well as of commodities in short supply, such as trucks, tires and textiles. But even the imports from which the Centre's control was removed continued to be limited, in some cases, by export

[1] See Chapter V.

controls abroad and, more generally, by the shipping situation.[1]

The expansion of wheat production in the years 1942-44 took place in some of the Middle East countries—in Syria, for example—through an increase in the total cultivated area. In Egypt, however, there was a considerable change-over from cotton to wheat, largely as a result of government regulations limiting the cultivation of cotton and establishing compulsory minima for the acreage under wheat. The cotton acreage was reduced to less than half of what it had been before the war. Instead of being exported, the raw cotton was worked up largely by the local cotton manufacturing industry, which operated at maximum capacity to meet Middle East requirements. Budget surpluses realized by the Egyptian Government tended to offset, though only to a relatively minor extent, the effects of Allied expenditure. Domestic Government loans were floated for the financing of external debt repatriation and post-war electrification projects.

Iraq experienced a severe drought in 1943 and started a rationing scheme, which in 1944 was extended to cover tea, coffee and cotton textiles, as well as wheat and flour. Palestine combined rationing with subsidies to check the rise in the cost of living. Iran introduced an income tax for the first time at the end of 1943. Some industrial development occurred in Iran, as in most of the other Middle East countries, in response to military and local civilian requirements. When the Black Sea became accessible to Allied shipping, a large part of the Allied military personnel maintaining the supply route to Russia was withdrawn from Iran.

In India, in contrast to the Middle East, the establishment of the South East Asia Command in July 1943 led to an increase rather than a reduction in military expenditure. "By the end of 1942-43[2] the cumulative effects of the wartime expansion of currency, the rise in the money income of a large portion of the community, together with the reduction in the supply of consumer goods, had, in the absence of an adequate system of controls on distribution and prices and of machinery to absorb excess purchasing power, resulted in a large increase in living costs and price levels. This was further aggravated by the hoarding of essential commodities on a large scale, profiteering and speculation. In order to deal with this situation, a series of control measures were instituted during the year (1943-44)[3] with the object of regulating the distribution and prices of essential goods, increasing production and checking speculation. In addition, sustained efforts were made to reduce purchasing power by attracting idle money into Government loans and by the institution of savings campaigns. Further measures were taken to speed up the assessment and collection of taxes, and in the 1944-45 budget, meas-

[1] U.S. Department of State, *Bulletin*, January 21st, 1945.
[2] Fiscal year ending March 31st. [3] Fiscal year ending March 31st.

ures were introduced for the payment of Income and Excess Profits Tax at quarterly, instead of yearly, intervals. In addition, from August 1943 onwards the Reserve Bank commenced selling gold in order to absorb surplus funds."[1]

In the latter part of 1943, famine conditions prevailed for some months in Bengal and certain other areas normally dependent to some extent on outside food supplies. The Government placed a ban on all cereal exports from India, started regular monthly imports of food grains in October 1943, and adopted rationing and other measures to improve the internal system of distribution. By the middle of 1944 rationing of rice, wheat and sugar had been extended to 226 towns and cities with a combined population of 35 million persons, as well as to many rural districts.

As the prices of cotton goods had increased to five times the pre-war level, an order was issued in June 1943 requiring all stocks of cotton cloth to be reported and disposed of within six months at prescribed maximum prices. All cloth manufactured after August 1st, 1943 had to be stamped with the official price and the date of manufacture, so as to prevent profiteering and hoarding. These measures were successful in enforcing some reduction in prices. India's production of cotton cloth in 1944 was about 30% above the pre-war volume, and had come to absorb over four-fifths of the domestic supply of raw cotton, exports of which had sharply decreased.

For articles not covered by special control orders such as that for cotton goods, a comprehensive Hoarding and Profiteering Prevention Ordinance was issued in October 1943. Forward dealings in staple products were prohibited. An embargo which had been placed on all capital issues was relaxed so as to permit issues intended for the financing of industrial development after the war, provided that in the meantime the proceeds of these issues were invested in Government bonds. These and other measures mentioned did not fail to produce an effect on the general level of prices, which, as already noted, was virtually stabilized in the latter part of 1943 and during 1944.

Apart from the increase in cotton manufacture, there is little evidence of recent industrial expansion in India. Iron and steel production, after a considerable increase in the earlier war years, declined from 1941 to the middle of 1944. Coal production is reported to have fallen off in 1943 owing to a shortage of labour due to food difficulties, an epidemic of malaria, and the migration of workers to easier and better-paid jobs. The Government appointed a Coal Commissioner "to study all the factors bearing on the production and movement of coal."[2]

[1] Reserve Bank of India, *Report on Currency and Finance for the Year 1943-44*, page 18.

[2] *International Labour Review* (I.L.O.), September 1944, page 362.

Australia and New Zealand

The intensification of Australia's war economy in the years 1942-43 was marked by an increase in aggregate production and employment (largely through the employment of women); by a virtual cessation of private investment (including particularly building); and by a reduction of approximately 20% in the volume of civilian consumption. In addition to her exports to Britain, Australia supplied more than three-fourths of the food consumed by United States forces in the southwest Pacific. In order to do this she rationed her own consumption of meat and dairy products as well as her consumption of commodities such as clothing, footwear and petrol. Towards the end of 1943 the labour shortage, particularly in the dairy industry, became so acute that it was decided to transfer a limited number of personnel from the army to agriculture. This transfer was carried out largely in the first half of 1944.

Australia's food production plans were, however, severely upset by a long drought in the latter part of 1944, as a result of which the wheat crop fell to the lowest level since 1914, and there developed a great shortage of animal fodder.

Australia's production of munitions and armaments reached a peak in 1943. In the middle of that year it was found that the domestic munitions output was more than sufficient to meet all needs. It was thus possible to shift some skilled industrial workers out of the munitions industry to shipbuilding and repairing, as well as to the making of agricultural machinery, which had been cut down by 80% since 1941.[1] Total manufacturing employment in the years 1943-44 was almost constant at a level 34-38% above that of 1938/39, though in 1944 the tendency was slightly downward. It was officially stated in the spring of 1944 that the number of workers engaged in producing manufactured articles for civilian use was only 30% of the number employed in manufacturing before the war.

The expansion of Australia's industrial output was limited by a scarcity of coal, as well as by the general shortage of manpower. Domestic coal production rose to a record level in 1942. It declined subsequently as a result of labour difficulties, though it still remained above the pre-war level. Coal had to be rationed even to essential users.

New Zealand, at least until the middle of 1944, maintained a higher proportion of manpower in the armed forces than any other of the United Nations except the Soviet Union. However, some men were transferred from the army into essential industries in the course of 1944. The purpose of these transfers, as in Australia, was to provide the most effective contribution to the Allied war effort, partic-

[1] See *Economic Record*, June 1944.

ularly in the form of food. Meat, butter, sugar, tea, clothing and petrol were rationed. The maintenance of food production was rendered difficult by a reduction in fertilizer supplies to not much more than half the pre-war level. In accordance with a new agreement concluded with the British authorities, the payments received by New Zealand for farm products exported to the United Kingdom were increased during the second half of 1944 in order to enable New Zealand to build up foreign exchange reserves adequate to her post-war needs and to compensate her for the war-time rise in the prices of imported commodities. The new agreement did not entail a rise in the receipts of producers; but it enabled the Government to reduce the subsidies which had been paid to the farmers in order to stimulate output and offset higher production costs.

Free China

Inflation continued unabated during the years 1943-44. All efforts to slow it down proved unsuccessful. Yet the rise in prices could hardly be said to have degenerated into a "runaway" inflation; for it continued, on the whole, without acceleration. The average rate at which prices were rising remained at about 10 to 12% per month. This alone was an achievement, in view of the difficult circumstances in which China continued to fight the Japanese invasion.

The rise in prices was far from uniform; transport difficulties caused it to vary widely from one region to another. Early in 1943 an abortive attempt was made to impose price ceilings. The Government's efforts to collect the land tax in kind, largely for the purpose of feeding the soldiers and civil servants, met with only partial success. In 1943 crops in many parts of China suffered from drought, which led to a famine in the province of Honan. The improvement in the harvest in 1944 was partly offset by an extension of Japanese control over certain rice-producing areas, even though Japanese military occupation did not always succeed in cutting off these areas from trade with Free China.

The Government endeavoured to check the inflation by selling gold to the public (see Chapter IV). Moreover, in the autumn of 1944 the banks were ordered to accept deposits repayable at a rate determined by the price of gold at the time of repayment. This scheme was intended to have the same effects as the actual sale of gold, while enabling the Government to keep the gold in its own hands.

Efforts were made in the latter part of 1944 to simplify the war-time system of indirect taxation. This system had developed largely through the machinery of the inland customs offices which had existed prior to 1928, and which were revived during the war for the collection of "war-time consumption taxes" on goods passing from one part of the country to another. The inland customs offices were intended to offset part of the loss of maritime customs revenue,

which had yielded more than one-half of total Government revenue before the war. This system of taxation, however, since it could be evaded, proved inefficient from the fiscal point of view, and its general tendency was to impose an even greater degree of regional self-sufficiency than that resulting from the shortage of transport. The reform measures initiated in the latter part of 1944 aimed at abolishing the war-time consumption taxes, and at creating a system of tax collection which would not be dependent on the inland customs offices, most of which, indeed, were to be closed.

As was noted in the last *Survey*, there was a considerable amount of industrial development in the interior of China up to 1942. In the following two years, by contrast, there was little further progress. This was partly due, no doubt, to the closing of the last remaining trading routes linking Free China by land and sea with the outside world. The relative stagnation in industrial activity since 1942 has been attributed partly also to the inflation of prices. Since large and easy profits could be made simply by holding raw materials and other commodities, the profit incentive associated with manufacturing grew relatively weak.

The Government set up a War Production Board in November 1944 with the object of stimulating and co-ordinating all industrial activities essential to the war effort. The new Board was given powers of requisitioning; it was to centralize all munitions orders and to subsidize expansion and technical improvement in certain vital industries. The Board established two special committees, one dealing with iron and steel, and the other with fuel alcohol production.

A War Transport Board, with functions analogous to the War Production Board, was set up in January 1945. At the end of that month the first land convoy since 1942 entered China by a road linking Ledo (in India) with the northern section of the old Burma road. In addition, a pipeline running for a length of 1,800 miles between Calcutta and Kunming was nearing completion.

Japan and her "Co-Prosperity Sphere"

The Industrial Control Associations formed in 1942 set up centralized controls in certain key industries essential to the Japanese war effort. But they were administered mainly by industrialists as semi-autonomous cartels, and there was a lack of central planning for war production as a whole. After the quick initial successes of Japan's armed forces in the southwest Pacific, it soon became clear that vastly greater exertions were needed to consolidate and defend the spoils of conquest.

In March 1943 an attempt was made to secure a greater concentration of economic controls by the establishment of a Cabinet Advisers' Council, composed of seven industrial and financial magnates who, in joint session with the Cabinet, constituted a Supreme Economic

Council. A further reorganization of the war economy was effected in October 1943 by the creation of a Munitions Ministry, which took over the duties of a number of formerly separate agencies. Since, however, the output of army ordnance and ships was under the control of the War and Navy Ministries, the principal function of the Munitions Ministry proved to be the expansion of aircraft production. Indeed, aircraft and merchant ships received the dominant emphasis in Japan's war production programme from 1943 onwards.

In June 1943 a "conversion programme" was announced, dividing all industry into three classes. The maximum possible expansion was called for in Class I, comprising the iron and steel, coal, light metals, shipbuilding and aircraft industries. The lack of specialized machine tools, formerly imported, called for a special effort also in domestic machine-tool production. The textile, glass, pottery and other similar industries which made up Class II were required to turn over their buildings and equipment to Class I. Industries which could not be utilized for war purposes were placed in Class III and had to close down. In the latter part of 1944, the bombardment of industrial centres by the United States air force was beginning to cause serious damage to the Japanese war industries.

Living conditions in Japan steadily worsened in the years 1943-44. Rationing was made more severe. Even rice consumption was cut down substantially, but the rice was less polished than before and hence—though less palatable to the Japanese—more nourishing. In 1944, the rice ration came to include an increasing proportion of other cereals mixed with rice. Fish, another staple food in the Japanese diet, was largely replaced by soya beans, as fishing fleets were used for military transport purposes. The Government encouraged the growing of potatoes to take the place of the rice that was formerly imported. The severity of labour conscription in Japan is illustrated by the fact that the minimum age for both male and female labour service was lowered to 12 years in November 1944, the maximum age being 60 for men and 40 for women. Earlier in 1944, the mobilization of women, which had been on a voluntary basis, was made compulsory. For each industry or occupation the Government fixed a minimum percentage of employees who had to be women or girls.

In presenting the annual budget, the Finance Ministry has published each year estimates of the anticipated national income and its main uses in the following fiscal year. A precise definition of the nature and scope of these estimates is not available. For the later years, at any rate, these estimates obviously represent no more than tentative forecasts or plans which, in the case of Government expenditure, are usually altered by supplementary estimates presented in the course of the budget year. In spite of their doubtful value, the figures may afford a few significant indications, and are therefore reproduced below:

Japan: National Income and its Main Uses

Yen (000,000,000's)

Fiscal years (April 1st-March 31st):	1941/42	1942/43	1943/44	1944/45	1945/46
National income	40	45	50	65	90
Private consumption	17	15	13	12	12
Investment in industry	5	6	6	6	13
Government expenditure	18	24	31	47	65
Met by: Taxation	5	7	10	14	18
Borrowing	13	17	21	33	47
"National savings goal"	18	23	27	40	60

A striking feature of these figures is the small, and yet declining, share of private consumption in the national income. It is known, however, that these estimates do not include goods produced by people for their own consumption, which is doubtless an important item in the case of the rural population. The estimates for investment represent expenditure on war industries. Each year a "national savings goal" was set at a level designed to cover investment as well as Government borrowing. As in other countries, the Japanese public, in spite of intensive savings campaigns, preferred to hold their "savings" largely in the form of bank notes and deposits, so that Government borrowing and investment expenditure was financed almost exclusively by the banking system.[1]

Although the high level of "investment," the mobilization of women, and the shift of manpower from the countryside to the well-equipped war factories may have made some increase in "real" national income possible, it is clear that the national income estimates shown above reflect largely the upward movement of prices. The general wage-ceiling is known to have been relaxed in 1943 and 1944 as an incentive to labour. The official price indices, which, as in other countries, are affected by subsidies to keep down the cost of living, showed an accelerated increase in 1944; yet the total increase in these indices above the 1939 level was not much more than 50%.

The estimates shown above do not include contributions from occupied territories. These were entered separately in the 1943/44 budget at 4,900 million yen (or about 10% of the national income for that year), of which 3,300 was in the form of borrowing and 1,600 million was derived "mainly from the disposal of materials seized in the course of military operations and from the lease of captured articles." A further loan of 7,000 million yen raised in the southern occupied areas was announced in the spring of 1944. Owing to the shortage of shipping, however, the main purpose of these loans was, not to finance exports to Japan, but to meet local expenditure for the construction of roads and military bases in these areas.

Japan's shipping losses on the one hand and the advance of Allied

[1] See Chapter IV, Table 10.

forces on the other led to important changes in Japanese policy with regard to the occupied areas—the so-called "Co-Prosperity Sphere" —during the years 1943-44. The occupied areas of the South tended, owing to their distance, to be relegated to a subordinate position in Japan's war economy. As the shortage of shipping became more and more acute, the aim of Japanese policy was to secure the greatest possible self-sufficiency within the so-called "Inner Zone," comprising Japan, Korea, Manchuria and North China. In the Inner Zone itself, the shipping shortage necessitated certain shifts in the utilization of resources. The capacity of iron and steel production, for instance, was expanded on the mainland so as to reduce the shipping required for carrying iron ore and coking coal from the mainland to Japan.

In the trade between Japan and Manchuria all Customs duties were abolished and exchange controls relaxed. As a source of supply for Japan, Manchuria's cereal production was increased through extensive land reclamation schemes. A serious obstacle to the exploitation of Manchuria's resources was the shortage of labour. This the authorities endeavoured to alleviate through organized migration of labour from North China, not so much, as before, for seasonal employment, but rather for permanent settlement. As textile fibres constituted one of the most serious deficiencies in the "Co-Prosperity Sphere" as a whole, the Japanese made great efforts in North China to stimulate the growing of cotton in place of food. Their plans for increased cotton production were only partly realized, but the reduction in cereal cultivation led to food shortages which in their turn affected output in the coal-mining industry, as workers left the mines to return to the countryside in search of food.

Yet the inhabitants of the Inner Zone were, on the whole, fortunate compared with those of the Outer Zone in the South. In the Outer Zone, problems of unemployment and surplus stocks were superimposed on shortages of food, clothing and equipment. Lack of shipping enforced a far greater degree of regional autarky than in the north. The Japanese were unable to carry away more than a fraction of the products they needed from the southern zone, and even the little they did carry away they were unable to pay for in goods. Among the products shipped to Japan were notably certain key minerals, such as bauxite, chrome and manganese, mainly from Indo-China and the Philippines, the two countries in the Outer Zone which are nearest to Japan. It is significant that, though all the oil the Japanese required was available in the Netherlands Indies, the shipping shortage made it necessary to expand synthetic oil production inside Japan. While Thailand and certain parts of Indo-China had large exportable food surpluses, in the rest of the Outer Zone food was generally scarce. Even in one of the surplus countries, Indo-China, there was an area (Tonkin) which experienced famine conditions

in 1943. In Burma, not only was little or no progress made in realizing the cotton-growing plans of the Japanese, but a shortage of rice —a commodity normally exported—also developed. This was due to deficient inland transport, requisitioning of men and cattle for military purposes, and the lack of any incentive to produce in view of the absence of manufactured articles. The most serious food shortage developed in Malaya, where tin and rubber had become surplus commodities. In the Philippines, as well as in Malaya, strenuous efforts were made to extend the cultivation of cereals for local consumption. The once flourishing sugar industry of the Philippines fell into a state of decay.

Latin America

The Latin-American countries maintained or increased their exports during the period under review, while their imports, owing to war requirements and controls abroad, declined far below the normal level. The gold and foreign exchange reserves which they received in return for their export surpluses represented, in effect, a form of compulsory saving or deferred expenditure. The shortage of imported goods and the rise in domestic money incomes gave a great stimulus to manufacturing industries in Latin America. But war conditions prevented an increase in physical equipment commensurate with the increase in production. In consequence, the expansion in industrial activity entailed a more intensive utilization of existing plant.

In the Argentine, for example, it was stated that "existing mechanical equipment has had to be used intensively and it has not been possible to offset wear and tear by the renewals of machinery which are effected in normal times. The fact that the country is using up part of its capital goods without replacements gives rise to an accumulated demand for such goods which must be covered by imports as soon as circumstances allow."[1] The Brazilian cotton mills and the Mexican railways are instances in which particularly heavy deterioration of equipment has taken place.[2] The Mexican railways, it may be recalled, bore an exceptional strain in 1942 as a result of German submarine activity in the Caribbean.

Shortage of fuel was, in some of the Latin-American republics, another obstacle to industrial expansion. In the Argentine, cereals and linseed oil were widely used as fuel. At the end of 1944, when cereal crops suffered from a severe drought, exports of linseed oil were prohibited in order to conserve the domestic fuel supply. In a number of countries, however, including notably Brazil, Chile and Uruguay,

[1] Central Bank of the Argentine Republic, *Annual Report*, 1943, page 3.
[2] See Henry C. Wallich: "The Outlook for Latin America," in *Harvard Business Review*, Autumn 1944, page 65.

the construction of hydro-electric plants provided new sources of power.

In spite of the handicaps mentioned, Latin America achieved a considerable degree of industrial expansion, particulars of which are given in Chapter II. In 1943-44 total industrial employment in Brazil was about 50%, and in the Argentine about 20% above the level of 1938-39. Steel production plants were set up or enlarged in Brazil, Uruguay and Mexico.

Various measures were taken in 1944 to offset the expansion of credit resulting from the inflow of gold and foreign exchange reserves. In Brazil the monetary authorities issued so-called "re-equipment certificates" entitling the holders to foreign exchange in payment for future imports of capital goods. In Chile the central bank sold certificates maturing in U.S. dollars in 15 months. In Venezuela the central bank restricted its purchases of foreign exchange from the oil companies and required these companies to cover part of their local currency needs by borrowing from the public.

Before the war, tax revenue in Latin-American countries was greatly dependent on customs duties and hence on the volume of imports. The war-time decline in imports contributed to the rise in prices not only directly, but also indirectly through the resulting drop in government revenue, which frequently led to increased government borrowing from central banks. In the years 1943-44, however, many governments resorted to direct taxation as a means of compensating for the declining customs revenue. Excess profits duties were introduced in a number of countries including the Argentine, Brazil, Colombia and Ecuador. A progressive scale of income tax was adopted in the Argentine. In several other countries income taxes were introduced or, where they existed before, increased, while customs tariffs were in some cases reduced in order to stimulate imports and to lower their price. In Brazil the income tax took the place of customs duties as the largest single source of revenue. Venezuela introduced an income tax for the first time, and lowered certain excise and import duties. In Chile the decline in the yield of import duties was accompanied by a more than three-fold rise in income tax revenue from 1939 to 1943.

This noteworthy change in the fiscal structure undoubtedly helped to retard the rise in prices which had caused some concern in the earlier war years. As will be seen in Chapter V, in most Latin-American countries the rate of increase in prices slowed down during the years 1943-44. The most important exception was Mexico, where prices continued to rise rapidly. A general rise in wage rates was decreed in Mexico in September 1943 and further increases occurred subsequently. In addition to public works (road and railway building, irrigation schemes and construction of electric power plants),

there was a private investment "boom," fed in part by an inflow of capital from the United States. Among the measures adopted to check the inflation were sales of gold to the public, increases in banks' reserve requirements and restrictions on the export of certain goods of prime necessity. According to the latest available indications, the rise in prices in Mexico appears to have been arrested in the latter half of 1944.

New International Economic Organizations

The present volume is concerned with developments in war-time economic conditions and not with plans and policies which have been formulated with regard to the post-war world. Mention should, however, be made of the measures which the United Nations have taken with a view to the organization of international economic relations.

Food and Agriculture

The United Nations Conference on Food and Agriculture which was held at Hot Springs, Virginia, in May 1943 adopted a number of recommendations concerning the improvement of national diets, changes in agricultural production, distribution, marketing, international commodity arrangements and related subjects, and set up an Interim Commission composed of delegates from each of the forty-four nations represented at the Conference. The main function of the Interim Commission was to formulate and recommend for consideration by each Government a specific plan for a permanent organization in the field of food and agriculture.

The Interim Commission prepared a Constitution of the Food and Agriculture Organization of the United Nations, and submitted it in August 1944 to the nations concerned for their acceptance.

According to the Preamble, the nations accepting this Constitution are "determined to promote the common welfare by furthering separate and collective action on their part for the purposes of raising levels of nutrition and standards of living of the peoples under their respective jurisdictions, securing improvements in the efficiency of the production and distribution of all food and agricultural products, bettering the condition of rural populations, and thus contributing towards an expanding world economy."

In Article I, the functions of the proposed organization are set out as follows:

> "1. The Organization shall collect, analyze, interpret, and disseminate information relating to nutrition, food and agriculture.
>
> 2. The Organization shall promote and, where appropriate, shall recommend national and international action with respect to—
>
> (a) scientific, technological, social, and economic research relating to nutrition, food and agriculture;

(b) the improvement of education and administration relating to nutrition, food and agriculture, and the spread of public knowledge of nutritional and agricultural science and practice;
(c) the conservation of natural resources and the adoption of improved methods of agricultural production;
(d) the improvement of the processing, marketing, and distribution of food and agricultural products;
(e) the adoption of policies for the provision of adequate agricultural credit, national and international;
(f) the adoption of international policies with respect to agricultural commodity arrangements.

3. It shall also be the function of the Organization—
(a) to furnish such technical assistance as governments may request;
(b) to organize, in cooperation with the governments concerned, such missions as may be needed to assist them to fulfil the obligations arising from their acceptance of the recommendations of the United Nations Conference on Food and Agriculture; and
(c) generally to take all necessary and appropriate action to implement the purposes of the Organization as set forth in the Preamble."

Relief and Rehabilitation

The United Nations Relief and Rehabilitation Administration (UNRRA) was set up in November 1943 by an agreement signed by representatives of forty-four nations. The main function of this organization is "to plan, co-ordinate, administer or arrange for the administration of measures for the relief of victims of war in any area under the control of the United Nations through the provision of food, fuel, clothing, shelter and other basic necessities, medical and other essential services; and to facilitate in such areas, so far as necessary to the adequate provision of relief, the production and transportation of these articles and the furnishing of these services" (Article I).

At its first meeting held at Atlantic City, New Jersey, in November 1943, the Council of the Administration resolved (1) that the Administration will operate in liberated areas "from such a time and for such purposes as may be agreed upon between the military command and the Administration"; (2) that "in the case of a liberated area in which a government or recognized national authority exercises administrative authority, the Administration will operate only after consultation with, and with the consent of, the government or recognized national authority concerned"; and (3) that any operations undertaken in an enemy or ex-enemy area require, in addition,

the prior approval of the Council and must be financed by the enemy or ex-enemy country concerned.

The supplies and services to be provided by the Administration were set down under four heads: (1) relief supplies, such as food, clothing and shelter; (2) relief services, such as health and welfare, and the repatriation of displaced persons; (3) rehabilitation supplies and services, such as seeds, fertilizers, raw materials and machinery, needed "to enable a recipient country to produce and transport relief supplies for its own and other liberated areas"; and (4) rehabilitation of public utilities and services, such as light, water, sanitation and transport.

It was decided that, in order not to impede the successful prosecution of the war, "demands upon supplies and shipping presented by the Administration should be co-ordinated with other demands through the use of the existing inter-governmental agencies concerned with the allocation of supplies and shipping."

The Council recommended that "each member government shall make a contribution for participation in the work of the Administration, approximately equivalent to one per cent of the national income of the country for the year ending June 30, 1943"; and that at least 10% of the amount contributed "shall be in such form of currency as can be expended in areas outside of the contributing country," the balance to be available in local currency for purchases in the contributing country.

At the second meeting of the Council of UNRRA, held at Montreal in September 1944, the Administration was authorized, without the necessity of obtaining prior approval by the Council, to carry out operations in enemy or ex-enemy areas for the care and repatriation of displaced persons, or for the control of epidemics. In Italy, moreover, the Administration was authorized to provide goods and services to a value not exceeding $50 million for the "care of, and welfare services for, children and nursing and expectant mothers."

The first year of UNRRA's existence was, in the main, a period of planning and preparation. The Director General pointed out, in November 1944, that the shortage of transport, due to military shipping needs and the destruction of inland transport facilities, was one of UNRRA's main preoccupations. He also stated that "most of the member governments of the countries in western Europe have indicated that they will not need relief supplies from UNRRA. They have foreign exchange resources which they can use for the purchase of imported food and clothing and other relief goods. But they do need our help in the care and repatriation of their homeless people, some aid with respect to health and welfare services, and technical help in restoring farm and factory output."[1] In the Mediterranean

[1] UNRRA, *Monthly Review*, No. 4.

area, UNRRA operated a number of camps for refugees, and made arrangements with the governments of Greece and Yugoslavia for the provision of relief supplies. A committee of the UNRRA Council made preparations for relief measures in the Far East.

International Monetary Fund

The United Nations Monetary and Financial Conference, which met at Bretton Woods, New Hampshire, in July 1944, adopted agreements for the establishment of an International Monetary Fund and an International Bank for Reconstruction and Development.

The purposes of the proposed Fund are: to provide "machinery for consultation and collaboration on international monetary problems"; "to facilitate the expansion and balanced growth of international trade"; "to promote exchange stability, to maintain orderly exchange arrangements among members, and to avoid competitive exchange depreciation"; "to assist in the establishment of a multilateral system of payments" and "in the elimination of foreign exchange restrictions"; to make resources available so as to enable members "to correct maladjustments in their balance of payments without resorting to measures destructive of national or international prosperity"; "to shorten the duration and lessen the degree of disequilibrium in the international balances of payments of members."

Both the subscriptions to be paid to the Fund and the right to draw upon the Fund's resources will be governed by a "quota" assigned to each member country. Upon joining the Fund, each country shall contribute to the Fund an amount of gold equal to 25% of its quota or 10% of its gold reserve, whichever is smaller. The remainder of its quota is to be contributed to the Fund by each country in its own currency.

The aggregate of the forty-four countries' quotas agreed upon at the Bretton Woods Conference is $8,800 million. The largest quotas are those of the United States ($2,750 million), the United Kingdom ($1,300 million), the U.S.S.R. ($1,200 million), China ($550 million) and France ($450 million).

For making such payments abroad as are deemed consistent with the purposes of the Fund, each member country will have the right to buy, with its own currency, the currency of another member country from the Fund. In any one year, a country may purchase from the Fund an amount of foreign currency not exceeding 25% of its quota. Moreover, the total amount of foreign currency which a country may buy from the Fund over a period of years is limited by a provision according to which the Fund's holdings of any member country's currency shall not exceed 200% of that country's quota. The Fund will have authority, however, to relax these limits under certain conditions.

If there develops a scarcity of a particular currency, the Fund may "issue a report setting forth the causes of the scarcity and containing recommendations designed to bring it to an end." In order to replenish its holdings, the Fund may seek to borrow such currency from the country concerned or offer gold to that country in exchange for such currency. If, however, the demand for the currency in question continues to exceed the supply, the Fund shall formally declare such currency scarce and shall then apportion its existing and accruing supply of the scarce currency among the member countries. In these circumstances any member country will be authorized "temporarily to impose limitations on the freedom of exchange operations in the scarce currency" (Article VII, Section 3).

The agreement lays down a procedure for the initial determination of exchange rates among the currencies of the member countries. Changes in the exchange rates initially agreed upon shall be made only after consultation with the Fund, and only if such changes are necessary to correct a "fundamental disequilibrium."

Bank for Reconstruction and Development

The main purposes of the proposed Bank are: "to assist in the reconstruction and development of territories of members by facilitating the investment of capital for productive purposes, including the restoration of economies destroyed or disrupted by war"; "to promote private foreign investment by means of guarantees or participations in loans and other investments made by private investors; and when private capital is not available on reasonable terms, to supplement private investment by providing, on suitable conditions, finance for productive purposes out of its own capital, funds raised by it and its other resources."

The proposed subscriptions to the Bank, as agreed upon by the forty-four countries represented at the Bretton Woods Conference, amount to a total of $9,100 million. The subscription of each member country will be divided into two parts: 20% will be paid up (2% in gold and 18% in local currency) to enable the Bank to make direct loans out of its share capital. The remaining 80% will be called only when required to meet any obligations arising from the other two kinds of loans with which the Bank will be concerned: namely, loans made by the Bank out of funds raised by the Bank in the market, and loans made by private investors with the guarantee of the Bank. On these two types of loans the Bank will charge a commission of 1-1½% per annum, which will be set aside as a reserve to meet any losses that may arise through default or otherwise. It is only when this reserve is not sufficient to meet such losses that the unpaid balance (80%) of the Bank's share capital will be drawn upon. The total amount of guarantees, participations in loans and direct loans

made by the Bank must not exceed the total of the Bank's share capital and reserve funds.

All loans made or guaranteed by the Bank must be guaranteed by the Government, central bank or some comparable agency of the borrowing country. Except in special circumstances, loans shall be for the purpose of specific projects of reconstruction or development. The Bank will give its assistance only to projects that have been recommended by a competent committee of the Bank after careful study of the merits of each proposal.

Economic and Social Council

Proposals for the establishment of a General International Organization were made by the Dumbarton Oaks Conference in October 1944, and are to be considered by a United Nations Conference at San Francisco in the spring of 1945. In addition to a General Assembly and a Security Council, the proposed Organization shall include an Economic and Social Council, consisting of representatives of eighteen members of the Organization elected by the General Assembly for terms of three years. This Council, according to the Dumbarton Oaks proposals, will have the following principal functions: "(a) to carry out, within the scope of its functions, recommendations of the General Assembly; (b) to make recommendations, on its own initiative, with respect to international economic, social and other humanitarian matters; (c) to receive and consider reports from the economic, social and other organizations or agencies brought into relationship with the Organization, and to coordinate their activities through consultations with, and recommendations to, such organizations and agencies."

CHAPTER II

PRODUCTION

Raw Materials

At no time during the war have the Allies experienced "a total or catastrophic inadequacy of supply of any large group of raw materials."[1] The problem they have had to face has been one of making large quantities available in a short time and at the appropriate places. Neither Great Britain nor the United States could have realized its gigantic war programme without drawing large supplies of materials from overseas. Great Britain normally imports most of her raw materials, and the resources of the United States, though great, are inadequate to furnish the requirements of an all-out war effort. The war economy of the United States has depended in particular on imports of such strategic raw materials as rubber, manganese, bauxite, chromium, copper, zinc, cobalt, tungsten, tin, antimony, sisal and jute.

The shortage, at times critical, of shipping space, together with the loss early in 1942 of some major sources of supply (especially for rubber, hemp and tin) in the Far East, seriously complicated the raw materials problem of the Allies. Moreover, the supply of some materials which remained under the Allies' almost undisputed control, such as nickel and mica, has continued to be tight throughout the war. Serious shortages of hides and pulp developed in the course of 1943, but were met by cuts in the allocation of supplies for non-military purposes. The pulp shortage is largely a problem of man-power deficiency in the forestry industry during the war, and is capable, therefore, of being overcome by augmenting the labour force in that industry. In the case of hides, the shortage cannot be corrected directly from the production side, since cattle as a rule are not raised for their hides. Market supplies will depend mainly upon slaughterings for food, which are not expected to recover rapidly; hence it is anticipated that a general scarcity of hides will continue well into the post-war period.

Apart from these few exceptions, ample sources of raw material supply have remained open to the United Nations; they have been able to draw on the great resources of the British Empire and North America and also on those of South America, the Middle East and the French and Belgian possessions in Africa. In the course of 1943 it became clear that the military effort of the United Nations was not likely to suffer materially from an insufficiency of raw materials. Indeed, towards the end of that year, there proved to be a super-

[1] Combined Raw Materials Board, *Second Annual Report*, Washington, 1944.

abundance of a number of materials, particularly in the non-ferrous metals group, and surplus supply of others seemed likely to materialize, as a result both of the expansion of primary sources and of the production of certain synthetic substitute materials. Thus, a problem of at least temporary over-supply, or surplus productive capacity, of various basic materials in the post-war years is already visible on the horizon.

Tentative estimates regarding rubber[1] afford an illustration of this point. Shipments of natural rubber from producing countries in 1939 totalled just over 1 million tons; in 1941 shipments took place at a rate of over 1½ million tons.[2] In 1939 world output capacity, excluding reclaimed but including synthetic rubber, was about 1.7 million tons, or more than 50% in excess of world consumption, which amounted to 1.1 million tons in that year. When Japan occupied the chief rubber-growing areas of the Far East, the productive capacity of the Malaysian Hevea plantations was estimated at about 1,550,000 tons. The Hevea trees, hundreds of millions in number, are not easily destroyed; they do not burn. It is believed unlikely that more than 10% of the Far Eastern productive capacity will have been destroyed when these areas are liberated. Moreover, such loss as is suffered may well be offset by increased production in Latin America, Africa and the U.S.S.R. (excluding synthetic rubber production). There has also been a rapid development of synthetic rubber production, particularly in the United States, where the output in 1944 was expected to exceed 800,000 tons. On the assumption that the war will be over by the middle of the 'forties, the total effective productive capacity for the early post-war period has been tentatively estimated as follows:[3]

	Long tons
Natural rubber:	
Malaysia	1,400,000
Latin America and Africa	100,000
U.S.S.R.	40,000
Total	1,540,000
Synthetic rubber:	
United States and Canada	1,000,000
U.S.S.R.	90,000
Germany	70,000
Other countries	50,000
Total	1,210,000
Grand Total	2,750,000

[1] K. E. Knorr, "Rubber After the War," *War Peace Pamphlets*, No. 4, Food Research Institute, Stanford University, 1944. See also *The Economist* (London), July 8th, 1944.

[2] Published statistics are available for January-November 1941.

[3] K. E. Knorr, *op. cit.*

It is anticipated that there will be an exceptionally heavy demand for replacement and restocking purposes, and for satisfying other deferred requirements, during a comparatively brief post-war transition period. Once this early rush has receded, world consumption is likely, according to some estimates, to fall off to an average level of some 1,600,000 tons per annum for the remainder of the present decade. According to these estimates, a surplus capacity of over 70% would thus be in prospect. Other estimates, making more liberal allowance for new uses of rubber, concede the possibility that consumption may be near to 2 million tons at the end of the 'forties. On the other hand, some estimates of the post-war capacity of the synthetic rubber industry in the United States alone range as high as 1.6 million tons. With the transition to a peace economy, considerations of relative costs and prices will naturally have a more direct influence on production than they have had during the war. So far, production costs have been much higher for the synthetic than for the natural product, and they seem likely to remain so for some years to come. Natural rubber still holds an advantage, also, in respect to quality for general purposes. Synthetic rubber, on the other hand, has undeniable superiority in certain special uses. Hence, there will be room after the war for both natural and synthetic rubber. It seems highly improbable, however, that world demand in the foreseeable future will be large enough to absorb such total quantities of the two varieties as are suggested by the estimates of potential output given above. This would appear the more unlikely in view of the great expansion during the war of the output of reclaimed rubber, which product, left out of account above, may well continue to supplement the fresh (natural or synthetic) raw product in the manufacture of rubber goods, though presumably not to the same extent as during the war.

The International Rubber Regulation Scheme, which became inoperative after Japan's conquests in the Far East, has been terminated. In August 1944, however, conversations involving the Governments of the United Kingdom, the Netherlands and the United States, as well as representatives of the industries concerned, were held in London to discuss the rubber problem and to consider the desirability of establishing a committee which would keep the rubber situation under review. "A large measure of agreement was reached on the broad outlines of the rubber position and on the nature of the problems that lie ahead."[1] Arrangements were made for carrying out a joint programme of studies and for "securing continuing examination and further discussion of the problems likely to arise with respect to rubber and rubber substitutes." It was agreed to resume the conversations in the near future.[2]

[1] *The Department of State Bulletin*, Washington, August 13th, 1944.
[2] *Ibid.*

The rapid expansion of the output of synthetic textile materials may prove a major factor in the somewhat similar, though less spectacular, surplus problems which are likely to face producers of certain natural textile materials at some date after the war. The main sources of supply for the two most important of these, cotton and wool, have remained outside the control of Japan and Germany throughout the war. The blockade of Continental Europe, which is normally an important import market for these products, and the strain on ocean shipping in general during the war, greatly reduced the export possibilities. Nevertheless, it appears that there has been only a comparatively small contraction in the production both of cotton and of wool in the world as a whole since 1939 or 1940. In the Western Hemisphere, and particularly in Latin America, there has even been an increase in production (see Tables 1 and 3 below).

In the United States, where the acreage under cotton has been deliberately restricted, the large cotton crop of 1944 came from the smallest acreage since 1895, the yield per acre being the highest in history. Deliberate restriction of the cotton acreage has also been applied elsewhere, for instance, in India and Egypt, where, since 1942, Government subsidies have been paid to growers for shifting from cotton to food crops. In both India and Egypt the acreage restriction measures have been combined with direct aid to the cotton growers in the form of Government purchases of part of the crop. The British Government participated in this policy in Egypt, buying half the Egyptian cotton crop in 1942.

Mill consumption of American cotton has been well maintained during the war. A large increase in the amount of cotton used in the United States during the war more than outweighed, up to 1942, the drastic decline in the purchases of American cotton by other countries whose consumption of all kinds of cotton was sharply reduced. It is estimated by the United States Department of Agriculture that the total consumption of all kinds of cotton outside the United States had shrunk in 1942 and 1943 to roughly two-thirds of the 1934/38 average (see Table 2). The main reason was the closing of the Continental European market.

As a net result of these changes in crops and in consumption, the carry-over of American cotton on August 1st, 1944 was about 11.4 million bales (nearly all held in the United States), as compared with the 1934/38 average of 9.4 million. As the carry-over in the summer of 1939 was more than 14 million bales, however, it is evident that a substantial proportion of the immediate pre-war surplus has been worked off in the course of the war. On the other hand, it is estimated that the world carry-over of all other kinds of cotton, which

averaged 7.2 million bales from 1934 to 1938 (and was 7.5 million bales in 1939), had exactly doubled by the end of July 1944. Hence, the total estimated carry-over of all kinds of cotton at that date, amounting to 25.8 million bales, of which 10.7 million in the United States, was nearly equal to one year's world crop.

In the case of wool, the surplus position is very similar. Wool production in the Americas rose steadily up to 1943, the expansion being particularly marked in the Argentine, where output rose as much as 40% above the 1934/38 average. The available estimates for 1944 indicate a small drop (by some 4%) in the output both of the Argentine and of Uruguay. The annual clip in Oceania and British South Africa, which together account for over 40% of the world output, reached its peak in 1941. In the course of the following three years the clip was gradually reduced to about 90% of the old level. A serious drought in 1944 was partly responsible for the decline in the Australian clip (*cf.* Table 3).

Table 1

Estimated World Production of Cotton

Thousands of bales of 478 lbs. net

	1938	1939	1940	1941	1942	1943	1944
United States	11,943	11,817	12,566	10,744	12,817	11,427	12,228
Latin America:							
Brazil	1,989	2,140	2,507	1,844	2,089	2,675	...
Argentine, Peru, Mexico	1,030	1,050	917	1,077	1,302	1,343	...
Other countries	102	102	105	107	120	120*	...
Total Latin America .	3,121	3,292	3,529	3,028	3,511	4,138	...
Total Western Hemisphere	15,064	15,109	16,095	13,772	16,328	15,565	...
India	4,248	4,136	5,090	5,127	3,935	4,263	3,200
Egypt	1,728	1,800	1,900	1,735	877	740	901
Anglo-Egypt, Sudan ...	263	245	247	248	310	195	...
Turkey	306	300	218	268	230	217	265
Total of above countries	21,609	21,590	23,550	21,150	21,680	20,980*	
U.S.S.R.	3,800	4,000	3,000				
China (incl. Manchuria)	2,300	1,883	2,345	6,400	5,900	...	...
All other countries	1,400	1,500	1,600				
Grand Total	29,100	29,000	30,500	27,550	27,580	...	...

* Provisional data.

Sources: U.S. Department of Agriculture, *Foreign Crops and Markets*; National statistics.

Table 2

Estimated Mill Consumption of Cotton[a]

Bales (000,000's)

	United States			All other Countries			World Totals		
	American Cotton	Other Cotton	Total	American Cotton	Other Cotton	Total	American Cotton	Other Cotton	Total
1934/38	6.3	0.1	64.	5.5	16.0	21.5	11.8	16.1	27.9
1939	7.7	0.1	7.8	5.2	15.5	20.7	12.9	15.6	28.5
1940	9.6	0.1	9.7	2.3	14.5	16.8	11.9	14.6	26.5
1941	11.0	0.2	11.2	1.2	13.1	14.3	12.2	13.3	25.5
1942	10.9	0.2	11.1	1.3	12.5	13.8	12.2	12.7	24.9
1943	9.8	0.1	9.9	1.2	12.6	13.8	11.0	12.7	23.7

[a] Excluding destroyed cotton.

Source: U.S. Department of Agriculture, *Cotton Situation*, November 1944.

Table 3

Estimated World Production of Wool

Greasy basis: lbs. (000,000's)

	1934-38	1939	1940	1941	1942	1943*	1944*
United States and Canada	442	444	452	473	477	469	440
Latin America:							
Argentine	370	443	474	494	518	520	500
Uruguay	118	134	139	117	124	136	130
Other countries	115	117	114	116	114	115	116
Total Latin America	603	694	727	727	756	771	746
Total Western Hemisphere	1,045	1,138	1,179	1,200	1,233	1,240	1,186
British Empire Exporters:							
Australia	995	1,128	1,142	1,167	1,150	1,098	1,000
New Zealand	299	310	332	345	340	330	340
British South Africa	239	246	271	260	260	250	240
Total British Empire Exporters	1,533	1,684	1,745	1,772	1,750	1,678	1,580
British Isles	125	129	126	108	104	103	104
Total of above countries	2,703	2,951	3,050	3,080	3,087	3,021	2,870
U.S.S.R.	210	300	330	340	270	230	...
Continental Europe	401	429	402	400	398	389	...
All other countries	406	440	428	420	405	410	...
Grand Total	3,720	4,120	4,210	4,240	4,160	4,050	(3,900)

* Mostly preliminary data.

Sources: U.S. Department of Agriculture, *Foreign Crops and Markets*; National statistics.

Table 4

Annual Wool Exports of Five Principal Southern Hemisphere Producers

Lbs. (000,000's)

Seasons	Main destinations: U.S.A.	U.K.[a]	Continental Europe	Japan	Other destinations	Total to all destinations
1934/35-1938/39	113	641	771	189	27	1,741
1939/40	242	827	504	96	40	1,709
1940/41	786	363	25	98	98	1,370
1941/42	1,039	424	22	13	131	1,629
1942/43	665	344	15	—	155	1,179
1943/44	618	445	17	—	85	1,165

Source: U.S. Department of Agriculture, *Foreign Crops and Markets*, November 27th, 1944.

[a] According to a report recently released by the British Government and summarized in *Foreign Crops and Markets*, January 15th, 1945 retained imports of raw sheep wool from all sources into the United Kingdom by calendar years were as follows:

Lbs. (000,000's)

Average 1935-38	609	1940	1,006	1942	412
1939	703	1941	329	1943	267

In peace-time the domestic requirements of the five principal producing countries of the Southern Hemisphere (Australia, New Zealand, South Africa, the Argentine, and Uruguay) absorbed only about 8% of their clip. Increased local utilization during the war has raised that proportion to about 15%. The total wool exports of these countries were sharply reduced, despite a large increase in shipments to the United States (*cf.* Table 4).

Both in 1942/43 and in 1943/44 the total shipments from these five countries were one-third (or almost 600 million pounds) below the pre-war average. As a result, heavy stocks accumulated in these as well as in other countries. The exports to the United States in 1940/41 and 1941/42 (*cf.* Table 4) included large shipments made under a special agreement between the British and the United States Governments to build up a stock pile of wool in the United States where it would be available to United States users, or whence it could be transported to the United Kingdom, in case communications with the Southern Hemisphere sources of supply should be cut. This agreement was terminated in July 1942. Imports have continued on a large scale, however, for commercial purposes; war-time consumption in the United States rose to about 1,000 million pounds per annum, only two-fifths of which could be met from domestic production. Nearly 300 million of the 618 million pounds of Southern Hemisphere wool shipped to the United States in 1943/44 was supplied by the Argentine and Uruguay. Despite these exports, wool stocks in those two countries together rose from 440 million pounds at the

beginning of the 1943/44 season to 584 million at the end of that season. Almost all the wool shipped to the United Kingdom is supplied by the British Empire exporters in the Southern Hemisphere. The British Government undertook to purchase their entire wool clip for the duration of the war (including the war with Japan) and for one year after, and is thus the owner of the huge stocks accumulated in these countries since the beginning of the war. Similarly, in the United States, the Commodity Credit Corporation purchased the non-contracted portion of the 1943 domestic wool clip, and has been buying the 1944 clip at prices which are remunerative to producers who are unable to compete with the cheaper imported wool. In South America the unsold wool has simply accumulated in private hands.

The position of recorded wool stocks in July 1943, that is, at the end of the 1942/43 season, has been summed up by the United States Department of Agriculture[1] as follows:

	Wool stocks, greasy basis lbs. (000,000's)
British and U.S. Government-owned, stored in the U.S.A.	800
Privately owned in U.S.A.	560
British owned, stored in Australia, New Zealand and South Africa	1,400
Privately owned in the Argentine and Uruguay	440
Total	3,200

It is probable that the world total was considerably higher than this aggregate, which excludes the stocks held in the United Kingdom, for which no figures are available, and also minor unrecorded stocks elsewhere. At the beginning of the 1943/44 season, stocks of wool in the five principal wool countries of the Southern Hemisphere totalled 1,840 million pounds, or nearly 60% of the aggregate shown. By the end of the 1943/44 season, they had grown to 2,500 million pounds, and privately-owned stocks in the United States had increased to 650 million pounds.[2] Recorded stocks were, therefore, not much below, and total world stocks were no doubt considerably above, 4,000 million pounds. Thus, the total world stocks probably exceeded by a wide margin one year's world production (*cf.* Table 3).[3]

In view of the fact that after five years of war the world produc-

[1] *Foreign Crops and Markets*, February 1944.

[2] *Foreign Crops and Markets*, November 27th, 1944. Privately-owned stocks in the United States may subsequently have been increased further by purchases of Government-owned foreign wool sold at public auction in the autumn of 1944.

[3] By December 1944, according to the *Daily Mail* (Transatlantic edition, December 27th, 1944) British-owned stocks alone amounted to 4,000 million pounds—presumably including stocks held in the United Kingdom—which suggests that world stocks were close to, if not in excess of, a total of 5,500 million pounds.

tion both of cotton and of wool is as high as or even higher than it was in pre-war years, the large unused reserves of these materials which already exist and are likely to increase further before the war's end, would appear to be ample for meeting the anticipated rehabilitation requirements in the post-war transition period. Indeed, total supplies may prove to be so large in relation to the post-rehabilitation demand as to invite drastic production adjustments, especially in view of the increasing competition from synthetic textile materials. Part of the pre-war import market in Continental Europe, where synthetic textile production has developed rapidly during the war, may well have been permanently lost to oversea exporters of natural textile fibres.

A general idea of the development during the war of the synthetic textile industry, which was still in its infancy some ten years ago, is afforded by Table 5. So far as Europe is concerned, this table is based mainly on estimates computed by the United States Department of Agriculture. It covers only rayon and staple fibre production (from wood pulp), and hence disregards other synthetic textiles which may be quite important now, even though before the war their manufacture was only in the experimental stage. Both rayon and staple fibre compete with cotton (and silk), and staple fibre can, to some extent, be used also as a substitute for wool in certain mixtures.

Though still relatively unimportant outside Europe, the production of staple fibre in Continental Europe was nearly three times that of rayon in 1942. The Continent's output of rayon and staple fibre taken together was more than three times (in Germany with annexed territories, about four times) as great as it had been in the last pre-war quinquennium. In North America the production in 1942 was about twice as large as the 1934/38 average. The 1942 output on the European Continent alone is estimated to have been equivalent to some 4.8 million bales of cotton. Table 5 excludes those parts of the world for which 1942 production estimates are not available. It is known, however, that by 1937/38 Japan and Latin America were producing rayon and staple fibre at a yearly rate of some 750 million pounds. By 1942 the world output of synthetic textiles, not counting nylon and other kinds the production of which is not recorded, was probably close to 4,000 million pounds, rayon accounting for 1,660 million and staple fibre for over 2,000 million pounds. The estimated world production of cotton in that year amounted to between 13,000 and 14,000 million pounds, and that of wool to somewhat over 4,000 million. It is believed that by 1944 rayon and staple fibre production had gained still further in relative importance. The production of synthetic fibres will, no doubt, continue to expand after the war; in particular, there is likely to be a rapid increase in the production of certain low-priced high-quality substitutes for wool which are re-

Table 5

Estimated Production of Rayon and Staple Fibre

Lbs. (000,000's)

	Average 1927-1933 Rayon (and staple fibre)[a]	Average 1934-38 Rayon	Staple Fibre	Total	1942[b] Rayon	Staple Fibre	Total
United States	132	265	14	278	479	153	632
Canada	5	13	—	14	18	—	19
Total North America	137	278	14	292	497	153	651
United Kingdom	57	109	20	129	90	45	135
U.S.S.R.	3	14	—	14	30	—	30
Continental Europe: Germany, Austria, Czechoslovakia, Poland	72	130	142	273	220	880	1100
Italy	69	93	104	198	132	330	462
France	43	61	8	69	69	128	197
Belgium, Netherlands Switzerland, Sweden, Norway, Finland ...	29	35	1	36	44	28	73
Spain, Portugal	10	12	1	13	19	31	49
Hungary, Roumania, Greece	3	5	—	5	9	20	29
Total Continental Europe	1	1	—	1	7	8	15
Grand total	227	337	256	595	500	1425	1925
	424	738	290	1030	1117	1623	2742

[a] Almost exclusively rayon; staple fibre production was insignificant prior to 1934.
[b] Largely conjectural data.

Source: U.S. Department of Agriculture, *Cotton Situation*, September 1944; National statistics.

ported to be successfully derived from soya beans and other substances rich in proteins.

The production of a new textile fibre from rubber is reported to have been started in Japanese-controlled southeastern Asia, where rubber is also being used for manufacturing substitute petrol.[1]

Petroleum production in 1941 in the Netherlands Indies, Borneo and Burma, which were occupied by the Japanese in 1942, totalled 8.8 million metric tons.[2] This figure, together with the 0.4 million tons produced in Japan and Formosa, constituted less than 2% of the 498 million tons produced in 1941 in the world excluding Continental Europe. The production of Continental Europe in that year may have amounted at the most to 14 million tons, including the synthetic oil

[1] *The Economist* (London), December 18th, 1943.

[2] It is not definitely known to what extent the destruction of wells and equipment before they fell into enemy hands will have lasting effects on the output of these countries in the future.

output.[1] Since the bulk of the world's petroleum resources remained within the orbit of the United Nations, there has been no over-all shortage of productive capacity on their side. A substantial part of the Russian production, which totalled over 33 million tons in 1941, was, however, temporarily put out of commission by Germany's penetration into Soviet territory in 1942. Moreover, serious transportation problems have faced the United Nations. Because of the tanker shortage, the major Latin-American producers are said to have cut their output well below the 1941 level. Restrictions on output have also been applied in the Middle East.[2] On the other hand, North American production, which amounted to 191 million metric tons in 1941, has increased since 1942. In 1944 it reached an estimated total of 227 million tons, or nearly one-third more than the amount (172 million tons) extracted in 1939. Nevertheless, the war requirements, particularly of gasoline, have made it necessary for civilian consumption to be severely rationed.

Coal production during the war has increased in certain countries, including the United States and Germany. On the whole, however, coal has been in short supply in relation to war-time requirements. Even in the United States the coal supply caused some concern in 1944. Production declined after 1942 in Canada and Australia, but continued to rise in the Union of South Africa, according to somewhat incomplete preliminary data. In "Greater Germany" the increase in the output of hard coal by some 12 or 13% between 1938 and 1943 occurred mainly in the Silesian mines annexed from Poland and Czechoslovakia; lignite production rose by about 35%. At the same time, however, there was an increased demand for both hard and soft coal for the manufacture of synthetic oil and other substitute materials.

For Continental Europe outside "Greater Germany," no complete statistics of coal production have been published since 1938, when the output amounted to 102 million tons of coal[3] and about 21 million

[1] It is reported that petroleum production has expanded rapidly during the war in Austria and Hungary, where only 63,000 and 43,000 tons, respectively, were extracted in 1938. Hungary's production had risen to 550,000 tons by 1941, and is estimated to have reached some 750,000 tons in 1944. It is believed that Austria had an output of about 1,500,000 tons in 1944 from the new petroleum fields which have been found to constitute one of the most important natural resources of that country.

[2] Official production data for recent years are not available for most of Latin America and the Middle East. In 1941 they produced 51.4 and 13.4 million tons, respectively. Venezuela's production, officially reported at 33.4 million tons in 1941, is stated by a correspondent to *The Economist*, London, March 24th, 1945, to have been reduced to about 27 million tons in 1942, owing to the U-boat menace in the Caribbean and the partial destruction of the Aruba refineries by enemy action in February of that year. In 1943 the Venezuelan output would appear to have recovered to roughly 30 million tons and in 1944 to have reached a new top figure of over 35 million tons.

[3] Excluding 52 million tons produced in those parts of Poland and Czechoslovakia which were later incorporated in "Greater Germany." In Table 6 these 52 million

Table 6

Coal Production

Metric tons (000,000's)

	1939	1940	1941	1942	1943	1944[a]
United States	404.9	464.7	515.0	580.9	586.2	620.0
Canada: Coal	11.1	12.6	12.9	13.0	11.5	11.3
Lignite	3.1	3.3	3.7	4.1	4.6	4.2
Latin America	4.0	4.5	4.8	5.3	.	.
Africa	18.5	19.2	20.3	.	.	.
Oceania	14.8	13.1	15.6	16.3	15.5	15.1
United Kingdom	235.1	227.9	209.7	208.2	202.1	(196.0)
"Greater Germany"[b]:						
Coal	238.0[c]	.	.	.	268.2[d]	.
Lignite	211.0[c]	.	.	.	286.4[d]	.
Hard coke	49.0[c]	.	.	.	53.4[d]	.

[a] Preliminary. [b] The pre-war data and those for 1943/44 cover identical territory. [c] 1938. [d] April 1943-March 1944.

Note: The source for the German data for 1943/44 is an article by the Diplomatic Correspondent of *The Times* (London), November 22nd, 1944.

tons of lignite. Output is known to have fallen considerably, however, in most of the occupied countries. Moreover, serious disorganization of transport facilities has further reduced the supplies effectively available, especially to civilian consumers. In the Soviet Union, as was stated in Chapter I, the rich coal mines of the Donets Basin were flooded by the retreating Germans in 1943. The decline in the coal production of the United Kingdom has been due in part to the withdrawal of labour normally employed in mining for export, which virtually ceased during the war.

The figures for iron and steel production given below testify to the rapid industrial expansion which has taken place in those parts of the world that are farthest removed from the active theatres of war.

Britain's steel output, in contrast to her coal output, has been well maintained during the war. In 1938 Germany's iron and steel output, including the production of Austria but excluding that of the Sudetenland, amounted to 18.6 million tons of pig-iron and alloys, and 23.2 million tons of steel ingots and castings. Production elsewhere in Continental Europe amounted to 15 million tons of pig-iron and 18 million tons of steel, of which 85% and 75%, respectively, were derived from countries later occupied by Germany. According to such scattered information as is available for the war years, it would appear that Germany increased her steel output between 1941 and

tons have been included in the pre-war figure for "Greater Germany" in order to render it directly comparable with the 1943/44 figure. Production in 1938 within the territory actually constituting "Greater Germany" at the end of that year amounted to: coal 186 million, lignite 211 million and hard coke 44 million metric tons.

1943. Aggregate production of both steel and iron in the occupied areas, on the other hand, appears to have declined during the war. In 1944, with the increased bombing of Germany and the liberation of much of Western Europe, both German production and the supplies available to Germany declined.

Table 7

Iron and Steel Production

Metric tons (000's)

	1939	1940	1941	1942	1943	1944[a]
Pig-Iron and Ferro-alloys:						
United States	32,366	42,999	50,860	54,400	55,812	56,150
Canada	845	1,325	1,580	1,986	1,790	1,846
Brazil	160	186	209	214	249	291
Mexico	95	92	85	127	.	.
Union of S. Africa	300	304	315	365	408	500
United Kingdom	8,108	8,326	7,508	7,726	7,302	.
Steel Ingots and Castings:						
United States	47,897	60,765	75,148	78,066	80,624	81,160
Canada	1,407	2,046	2,451	2,832	2,725	2,744
Brazil	114	141	155	160	184	220
Mexico	77	95	95	95	.	.
Union of S. Africa	314	.	.	.	.	.
United Kingdom	13,433	13,183	12,509	12,968	13,239	.

[a] Preliminary data.

In England the production of steel has been better maintained than that of pig-iron; a growing proportion of the former has apparently been derived from scrap. On the European Continent, when the war is over, large supplies of scrap iron and steel are expected to be forthcoming from the battlefields. Another addition to post-war iron and steel supplies will come from Latin America, where iron and steel productive capacity is being rapidly expanded by the establishment of modern plants in several countries. The new Volta Redonda Steel Works which are under construction in Brazil are being built for an annual capacity of 1 million tons.[1] In 1944 Brazil produced 220,000 tons of steel and 291,000 tons of pig-iron and ferro-alloys.

The output since 1939 of the base metals and of various light metals essential for ferro-alloys and other special purposes is shown in Table 8, which covers all the major producing countries for which production data are available for any part of the war period. The output of nearly all of these metals within the orbit of the United Nations has been greatly increased. The expansion was particularly

[1] *Bulletin of the Pan-American Union*, September 1944, page 538.

Table 8

Recorded Production of Non-Ferrous Metals in Principal Producing Countries

Metric tons (000's)

	1939	1940	1941	1942	1943	1944[a]
Copper						
United States	698	*922*	1,015	1,111	1,104	975*
United States, secondary	*453*	*483*	*659*	*842*	*985*	.
Canada	229	256	254	245	233	230*
Mexico	41	33	42	.	.	.
Chile	326	347	456	478	489	500*
Peru	34	34	28	30	28	27
Belgian Congo	123	150*	162*	176*	157*	.
Northern Rhodesia	215	243*	.	.	.	.
Union of South Africa	10	14	19	21	23	.
Oceania[b]	23	23	36	30	30	.
Spain (black, blister & electrolytic)	10	9	9	15	19	.
Sweden	11	13	18*	.	.	.
Turkey	7	9	11	8	10	.
Lead						
United States	439	484	518	514	408	400*
United States, secondary	*219*	*236*	*361*	*293*	*310*	.
Canada	173	200	207	221	204	130
Mexico	169	172	128	.	.	.
Argentine	14	13	18	21	.	.
Peru	21	32	33	38	44	.
Oceania[b]	237	254	242	259	223	.
Spain	26	46	43	39	41	.
Zinc						
United States	460	613	747	809	855	786
United States, secondary	*172*	*201*	*258*	*300*	*334*	.
Canada	159	168	194	196	187	154
Mexico	36	34	32	.	.	.
Oceania[b]	71	74	77	77	78	.
Spain	13	12	19	19	17	.
Tin						
Bolivia	27.6	38.5	42.7	38.9	41.0	39.5*
Belgian Congo	9.8	12.6	16.5	16.5	18.0	.
Nigeria	9.6	10.4	16.0*	17.0	.	.
Oceania	3.7*	4.2*	3.5*	2.9*	.	.
Portugal	1.4	1.6	1.5	3.0	3.4	.
Asia	120.5	167.0	170.0*	.	.	.
Aluminium						
United States	148	187	280	473	835	704
Canada	75	99	194	309	450	.
United Kingdom	25	19	23	48	57	.
U.S.S.R.	45	55	60	.	.	.
Japan	23	35	50	.	.	.
Germany	200	240	310	350	325	.
Hungary	2	3	6	7	10	.
Italy	34	40	48	45	46	.
Norway	31	25	30	40	35	.
Switzerland	27	28	26	24	19	.
Nickel						
Canada	103	111	128	129	131	125
Oceania	11	10	.	.	.	.

[a] Year's production estimated from monthly data available.
[b] Twelve months ending with June of each year shown.
* Preliminary or partly estimated.

Table 8 (concluded)

Recorded Production of Non-Ferrous Metals in Principal Producing Countries

Metric tons

	1939	1940	1941	1942	1943	1944
Antimony (metal content of ore mined)						
United States	359	448	1,101	.	.	.
Canada	556	1,177	1,445	1,379	505	879
Mexico	7,873	12,267	11,131	.	.	.
Argentine	120	114	128	45	.	.
Bolivia	10,060	11,753	14,872	17,643	17,973	.
Peru	847	896	1,569	1,454	2,379	.
Oceania	350	265	400	800*	.	.
Portugal	189	269	50	135	.	.
Czechoslovakia[a]	1,000*	1,200*	1,900*	3,400*	.	.
Yugoslavia	4,500*	5,800*	.	.	.	.
Cadmium						
United States	2,173	2,886	3,281	.	.	.
Canada	426	412	568	521	357	249
Oceania	175	175	195	166	.	.
Magnesium						
United States	3,039	5,680	14,783	44,418	166,544	152,800
United States, secondary	.	.	*1,589*	*5,700*	*10,345*	*13,600*
Canada	—	—	5	367	3,245	4,835
United Kingdom	5,000	6,000	11,000	18,000	23,000	.
Molybdenum (metal content of ore mined)						
United States	13,755	15,564	18,308	25,828	27,972	18,000*
Canada	1	5	47	43	150	400*
Mexico	523	309	521	.	.	.
Chile	30	267	229	1,095	.	.
Peru	115	176	147	194	99	.
Oceania	36	18	22	7	.	.
Tungsten (trioxide—WO_3—content of ore mined)						
United States	2,333	2,895	3,574	5,080	6,496	5,700*
Argentine	810	843	1,071	1,317	.	.
Bolivia	2,002	2,510	2,613	3,363	4,141	.
Oceania	632	700	698	468	.	.
Portugal	2,370	2,641	3,997	2,931	3,636	2,089
Spain	149	161	327	984	2,600	.
China	6,948	7,500*	9,000*	10,000*	.	.
Malaya	355	320	.	.	.	.
Burma	4,400*	5,400*	.	.	.	.
Indo-China & Thailand	533	471	.	.	.	.
Vanadium (metal content of ore mined)						
United States	900	981	1,140	2,014	2,534	1,500
Mexico	148	57	1	.	.	.
Peru	1,102	1,160	1,000	1,024	889	.
Northern Rhodesia	388	.	.	.	.	.
South-West Africa	515	428	269	.	.	.
Quicksilver						
United States	642	1,302	1,549	1,753	1,790	1,293
Canada	—	70	243	470	767	334
Mexico	254	402	798	.	.	.
China	2	118	155*	236*	.	.
Spain	1,238	1,800	2,984	2,492	.	.

[a] Slovakia only.

* Preliminary or partly estimated.

Sources: *Statistical Yearbook* and *Monthly Bulletin of Statistics of the League of Nations.*

rapid in the United States, Canada, Bolivia, Chile and Peru. The most spectacular increases have taken place in the output of magnesium, aluminium (chiefly for aircraft production, but partly, also, to replace tin[1] in certain uses), quicksilver, antimony and molybdenum. Among the base metals, zinc has shown the most rapid expansion.

The supplies of many metals became so plentiful that it was possible to slacken the rate of output, at least in the United States and Canada in 1944, or for some items (for example, lead and antimony) in 1943 or even 1942. According to the relevant group index of the Federal Reserve Board's general production index, non-ferrous metal smelting and refining in the United States reached a peak late in 1943, as is shown below:

Non-Ferrous Metal Smelting and Refining in the United States

(1935/39 = 100)

Annual Averages		Quarterly Averages	
1937	125	1943, I	249
1938	89	II	269
1939	113	III	284
1940	139	IV	306
1941	163	1944, I	298
1942	205	II	272
1943	277	III	226
1944	247	IV	192

By the end of 1943, the stocks that had been accumulated in the United States out of the rapidly rising domestic production and the substantial imports, had grown so large in the case of most base and light metals that they were considered to be in excess of requirements. The United States Government therefore began to curtail the production of certain minerals by stopping the premia paid to some marginal mines. A number of aluminium reduction plants were also closed down late in 1943 and in 1944; aluminium stocks had risen from 1.8 million short tons at the end of 1942 to 4.9 million at the end of 1943. Action intended to reduce copper production in Northern Rhodesia was taken by the British Government in January 1944, when it announced that it would cut copper purchases by stages until a total reduction of 20 to 25% was reached.

Industrial Activity

Continental Europe

It appears that German war production was, on the whole, expanding up to the end of 1942 or the beginning of 1943. This ex-

[1] The main sources of tin production became inaccessible early in 1942. The Allies had at their disposal, however, substantial strategic reserves of this metal for purposes of munitions production.

pansion was based partly on incisive cuts in production for civilian use and partly on the raw materials, labour and machinery obtained from the occupied areas, the productive activity of which had for the most part been geared to the needs of the German war economy.

From the summer of 1943 onwards, however, the losses of manpower and of sources of raw material supplies due to the military reverses in the East, South and West, and more especially the havoc wrought by the stepped-up aerial bombardment of industrial areas, caused a marked deterioration in German armaments production.

The output of civilian goods was subjected to further heavy reductions from the beginning of 1943 onwards. Indeed, the increase in the scope and strictness of "total mobilization," which occurred after the defeat at Stalingrad and again, in the summer of 1944, after the landing of Allied armies in France, led to the curtailment of all activities serving the purposes of civilian consumption to what appears to be the barest minimum. In the latter part of 1944 practically nothing but food was being produced for civilian use in Germany.

All possible measures were taken to release additional labour for war work. All "luxury" shops were closed, and other retail shops were eliminated in varying degree according to their nature. A much smaller number of bank offices than previously was allowed. Domestic servants were ruthlessly reduced in number and were altogether denied to childless couples. Also, the personnel of the central and local government administration, of postal and communications services, of the police, and finally, of the Nazi party itself, was included in the combing-out process.

In contrast to the situation in, for instance, the United States, there was no longer much possibility of extending working hours. At the outbreak of the war they were already about 60 hours per week, and possibly exceeded the limit consistent with maximum output.[1] In order to maintain production, recourse was had to the employment of an ever-increasing number of foreign workers. Their number is variously estimated. According to an estimate made by the International Labour Office, the number in "Greater Germany" at the beginning of 1944 was nearly 9 million, of which 6½ million were civilian workers and over 2 million were employed prisoners of war. A substantial proportion, especially of the latter, were doing agricultural work. Most of the civilian workers were compulsorily drafted from the occupied countries, and their productivity was

[1] Experiments carried out in a sample factory in Germany have shown that the increase in hours from 48 to 60 a week, or by 25%, led to an increase in output by 5%, the decreased output per hour being due largely to a higher proportion of illness and shoddy work. (See *The Economist*, July 22nd, 1944.) In April 1943 a spokesman of the German Labour Front is reported to have warned against further extensions of the working week. (See *International Labour Review*, August 1943.)

lower, on the whole, than that of the German labour which they were meant to replace.

In the effort to economize both raw materials and labour, the process of rationalization of industry was intensified, especially as it became necessary to rely increasingly on the employment of unskilled labour.[1] The exchange of technical and other information between different undertakings was organized on an industry basis with the aim of increasing output in the less efficient plants. In conjunction with these measures, there was an increased standardization of tools and designs.[2] Special measures were also taken to save scarce raw materials and fuel; building was curtailed, and a special commissioner was appointed to further the substitution of light metals for steel and other metals.

In order to render the industrial apparatus less vulnerable to bombing, which was concentrated particularly on the industrial centres in the West, industry was increasingly decentralized by dispersion to the countryside or removal to supposedly less exposed places in the East.[3] In addition, increasing numbers of assembly shops and other plants were placed underground.

In the occupied countries of western Europe, which were deprived of a large part of their manpower, and suffered an even greater shortage of raw materials that were normally imported, there was during the occupation a severe decline in the level of industrial production as a whole, and especially in those branches of industry which did not serve the requirements of the occupying power. Authoritative estimates are available for France,[4] and they are believed to be fairly representative of the situation in western occupied Europe as a whole. According to these estimates, the index of France's industrial output averaged 58 in 1942 and 55 in 1943, taking 1938 = 100 as the base. In September 1943 the index was only 50, and the decline continued in 1944.[5] Moreover, the raw materials shortage, enhanced after November 1942 by the temporary loss to the mother country of the North African resources, and the dearth of skilled

[1] Great efforts have been made in the field of vocational training. In 1943 there were some 185 communal (inter-firm) training centres in operation containing places for some 25,000 apprentices, in addition to 308 centres run by the Labour Front ("The German War Economy," *Economic Journal*, June-September 1943). Although training has been speeded up as far as possible, there are complaints of a lack of skilled labour, and it has become necessary to change the wage structure in favour of the skilled groups.

[2] By way of example, the reduction in types produced ranges from 96% for axes to 62% for pistons (*Vierjahresplan*, July 1943).

[3] This was facilitated by the standardization of tools and designs and prefabrication by factory shops. *Cf. The Economist*, June 10th, 1944.

[4] *Revue de l'Economie Contemporaine*, No. 21, January 1944.

[5] The increase in sabotage and the disruption of transport prior to and during the liberation are bound to have accelerated the decline for some time.

labour, had caused a general deterioration in quality of the goods produced.

By January 1944 over 2 million Frenchmen of productive age were in Germany. Roughly one million were prisoners of war, of whom some 870,000 were employed in production; and about 1,100,000 were civilian workers, of whom some 250,000 were former prisoners of war, whose status had been changed to that of "free workers." Of the 850,000 civilian workers imported from France, about one-half consisted of skilled workers. The average quality of the labour force left in France was thus reduced. Productive efficiency was further reduced by malnutrition, cold and other privations. To make up for the manpower shortage, working hours were increased from a weekly average of 38 hours in 1938 to between 40 and 41 hours in 1942 and to 45 hours in 1943. The volume of output is reported to have declined most in industries primarily serving domestic needs; output of the kind that was of direct use to the German war economy was better maintained. Thus, it is reported that mining production, which was only 65% of the 1938 volume in 1941, had recovered to 75% in 1942 and had surpassed the 1938 level in 1943.

For Denmark the official index of industrial production is available for the whole period of the war (see Diagram 1). Denmark is less highly industrialized than the other occupied countries of western Europe. Between the beginning of the war and the middle of 1940 her industrial output fell to about 22% below the 1939 average.[1] As she was allowed to keep her labour force almost intact,[2] she was able to prevent her industrial output from falling further. Since the summer of 1942 there has even been a slow upward tendency.

In those predominantly agricultural countries of southeastern Europe which were satellites of Germany during the war, industrial production expanded considerably, at any rate during the early war years. At least, this is the conclusion to be drawn from the index data that are available for three of these countries—Hungary, Slovakia and Bulgaria. The Hungarian general index rose by 8% between 1939 and 1941, the last year for which complete data have been published. The rise took place almost exclusively in the producers' goods industries, including iron and steel, engineering and chemical industries; the group index for these industries increased by over 21%, while the index for consumers' goods industries hardly increased at all, or, according to the data for the last quarter of 1941, even declined slightly. The expansion in producers' goods seems to have continued during 1942. In 1943, however, a decline is reported[3]

[1] Most of this fall took place before the invasion in April 1940.

[2] The number of Danish civilian workers in Germany was no larger in January 1944 than in October 1940—about 25,000. The largest recorded number was 48,000 at the beginning of 1943.

[3] *Deutsch-Französische Wirtschafts-Zeitschrift*, March 2nd, 1944.

to have taken place. The decline was especially marked in the latter part of the year, and was due to transport difficulties and the growing shortage of coal and raw materials. In Slovakia and Bulgaria likewise, the contraction in the output of consumers' goods was more than offset at first by an expansion in the output of producers' goods, particularly of metals and lumber in Slovakia, and of mining products in Bulgaria. The general index of industrial production in Slovakia, as computed by the Slovakian Institute of Business Research, rose by 20% between 1939 and 1942.[1] In Bulgaria, according to the published indices (*cf.* Diagram 1), industrial production rose up to 1941, when the general index was 18% higher on the average than in 1939, and declined during 1942 and 1943. By the middle of 1943 the Bulgarian mining index was still 65 to 70% above the 1939 average, while the textile index was about 30% below that average.

In Finland, production of paper, pulp, and sawn timber for export was drastically reduced during the winter war of 1939/40. It remained low thereafter, owing to the country's isolation from oversea markets. In consequence of the increased German demand after Finland had become a partner in the war against Russia, there was some recovery, particularly in sawmill production, after the middle of 1941. The index of production for export was, however, still almost 50% below the 1939 average (*cf.* Diagram 1) in March 1944.[2]

Since the summer of 1940, neutral Sweden's industrial production (*cf.* Diagram 1) has as a whole been well maintained at, or a little above, the level to which it dropped precipitously when her westward seaborne export traffic was cut off by the German invasion of Denmark and Norway. Her pulp and paper production fell abruptly by more than one-half; it recovered only temporarily in 1942. Her exports of timber (to Continental Europe) declined more slowly: from 1943 to the middle of 1944 (the latest date for which this group index is available) they were fairly stable at a level about two-thirds of the 1939 average. The output of her textile manufacturing industry, which came increasingly to rely on synthetic fibres, was almost stable,

[1] *Südost-Economist*, August 21st, 1943.

[2] A value index of industrial output for the home market is available covering chiefly the metal, textile, building-material and food processing industries. In order to eliminate the influence of the rise in prices, this index may be "adjusted" in the manner shown below:

	1939	1940	1941	1942	1943
a) Value of output	100	120	115	120	132
b) Price index (mean of domestic wholesale price and cost-of-living indices) ..	100	131	159	191	217
c) Quantum of output (*a* divided by *b*)	100	91	72	62	60

Since prices of domestic manufacturers are reported to have risen more than the composite index shown under *b*, though not as much as general wholesale prices, the contraction of output may well have been sharper than series *c* suggests.

Diagram 1

Index Numbers of Industrial Production (1939 = 100)

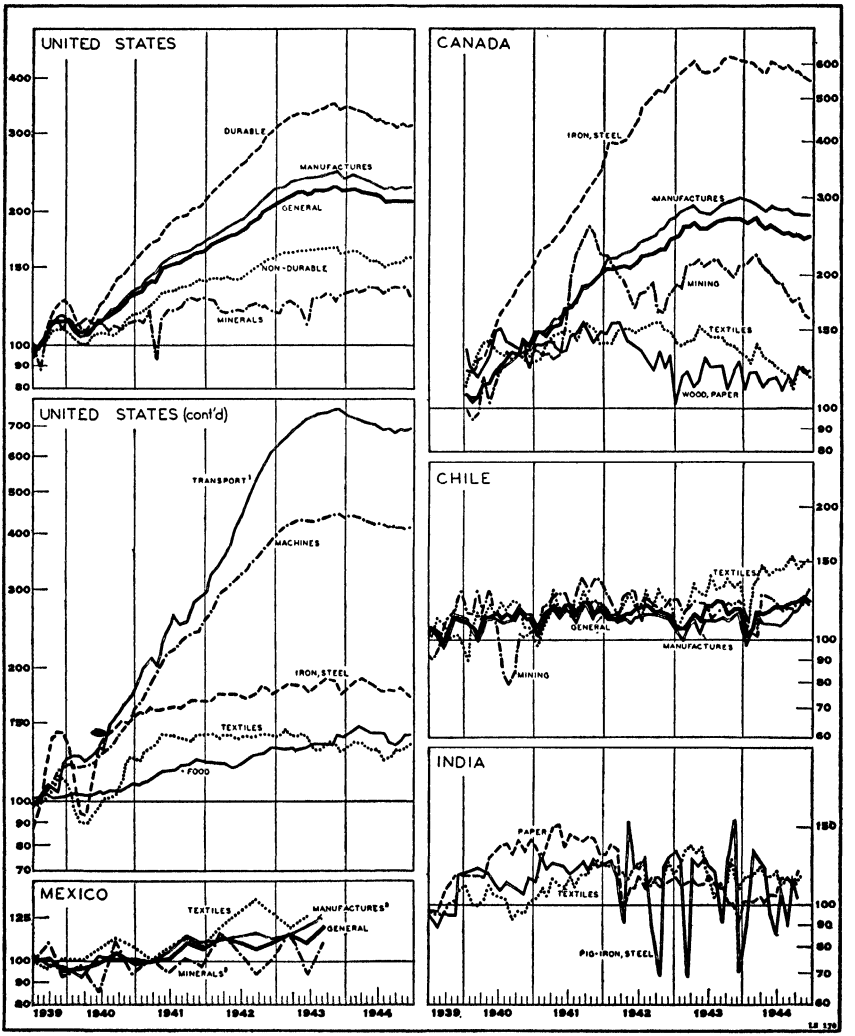
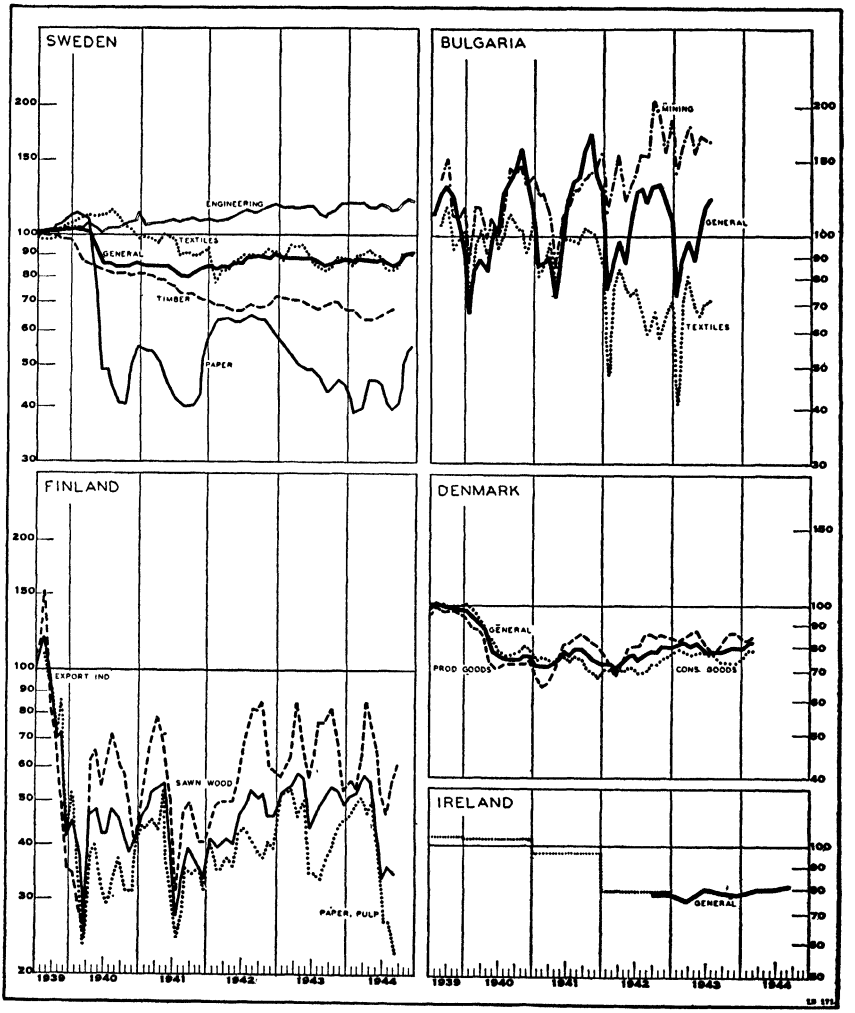


Diagram 1 (continued)

Index Numbers of Industrial Production (1939 = 100)



at about 90% of the 1939 average, from the latter part of 1942 to the middle of 1944, but has since tended to decline. In the iron and steel and engineering industries, supported largely by orders for the armed forces, output rose steadily up to the beginning of 1944, when it was nearly one-fifth above the 1939 average. The aggregate volume of industrial production has been comparatively stable since 1942 at 12 to 13% below the immediate pre-war level, but showed signs of falling off during the second half of 1944. The decline in employment has been smaller than the fall in production, probably largely on account of the new demand for labour to produce substitutes for formerly imported raw materials. The main reason for the decline in aggregate production is no doubt the keeping throughout the war of large numbers of men under arms for preparedness. Hence, the percentage of unemployed is low, and has been falling year by year since 1940.

The same general picture is presented by the indices for employment and unemployment in Switzerland, whose industrial activity is reported to have recovered during the early war years from a relatively low pre-war level. It appears that production began to fall off in 1942 and that the fall continued at an increasing rate in 1943.[1] This is mainly due to the more severe shortages of raw materials.

Soviet Union

The recovery of industry in the previously invaded Russian areas that were reconquered after the German defeat at Stalingrad has been rapid. By May 1944 petroleum production was "ahead of planned quotas," and the coal, and iron and steel industries of the Donets region were again operating, though not yet on anything like the former scale. Before the invasion, the Donbas accounted for nearly half of the Soviet Union's total output of coal and iron. Between May 1943 and May 1944 the Union's pig-iron production increased by 27%, steel production by 26.5%, rolling-mill production by 23%, and coke production by 39%.[2] These increases reflected not only the restoration of productive capacity in the liberated areas, but also the continued expansion of production in the new industrial areas in the Urals and further east. Economies in production are reported to have been achieved in the various industries, especially by means of raw-material-saving devices.

[1] Banque Nationale Suisse, *Bulletin Mensuel*, February 18th, 1944. No production index proper is available, but a statistical record is made of employers' current appreciation of the state of activity in the various branches. According to this record, industrial activity as a whole in the last quarter of 1943 was nearly 20% below the level of the last quarter of 1929, and conditions did not improve in 1944.

[2] *Information Bulletin*, Embassy of the U.S.S.R., Washington, June 24th, 1944.

United Kingdom

In the United Kingdom, between June 1939 and June 1944, the total number of men aged 14 to 64 and of women aged 14 to 59 in the services or in occupational employment rose by 3½ million, as is shown below.[1]

	Armed forces and whole-time civil defence	Occupational employment				Total service and occupational employment	Unemployed	Rest of population of productive age[d]	Total population of productive age
		Group I[a]	Group II[b]	Group III[c]	Total I-III				
				(In millions)					
Mid-year 1939:									
Men	0.6	2.6	4.7	5.8	13.1	13.7	1.0	1.3	16.0
Women	—	0.5	0.8	3.5	4.8	4.8	0.3	10.9	16.0
Total	0.6	3.1	5.5	9.3	17.9	18.5	1.3	12.2	32.0
Mid-year 1944:									
Men	4.7	3.2	4.1	2.9	10.2	14.9	0.07	0.9	15.9
Women	0.5	1.9	1.6	3.1	6.6[f]	7.1[f]	0.03	8.9	16.0
Total	5.2[e]	5.1	5.7	6.0	16.8[e]	22.0	0.1	9.8	31.9[e]

[a] Munitions industries, *i.e.*, iron and steel, non-ferrous metals, shipbuilding, engineering aircraft and vehicles, instruments, chemicals, explosives, etc.

[b] Agriculture, mining, national and local Government, transport, shipping (including merchant navy), public utilities, food manufacture.

[c] Building, textiles, clothing, distribution, professional services, etc.

[d] Housewives, servants, school children, students, invalids (including war invalids), retired, etc.

[e] Excluding war prisoners and missing.

[f] Each woman working part-time is counted as equivalent to half a whole-time worker.

The total number of men in the armed forces, in whole-time civil defence or employed in the munitions industries (employment group I) rose by almost 4¾ million; 3½ million of these were drawn from other employment, almost 1 million from the pre-war unemployed, and over ¼ million from the rest of the male population of productive age.[2] About 2 million women not previously occupied outside their homes (that is, chiefly housewives), and nearly 300,000 women previously unemployed, were added to the industrial labour force or enlisted in the Women's Auxiliary Services, mostly following the enactment in 1941 of compulsory enlistment in these services and of compulsory registration for employment. As a net result, in spite of the integration into active occupation of virtually all of the 1⅓ million previously unemployed and of nearly 2½ million women and

[1] When not otherwise stated, the data for the United Kingdom given in this section are taken from *Statistics relating to the War Effort of the United Kingdom*, November 1944, Cmd. 6564.

[2] The last-mentioned group fell by some 600,000 during the first two years of the war, but rose again in the subsequent years, mainly as the result of the addition of men invalided out of the Services and unfit to take up industrial employment.

men from the "inactive" population of productive age, the total number in occupational employment dropped by over a million in the five-year period considered.

In the middle of 1944, 7.6 million persons were engaged in manufacturing industries. Of these, 76% were engaged on Government work, 20% on work for the home market and 4% in producing goods for export. In 1938 about 15% of the larger labour force then employed in manufacturing had been engaged in production for export. The large-scale diversion of manpower and industrial capacity from the export trades and civilian production to direct war purposes which these figures reflect, was made possible partly by the lend-lease supplies and mutual aid furnished by the United States and Canada.

Detailed production data have been disclosed for some of the individual munitions industries. Those for shipbuilding are shown below.

Naval and Merchant Shipbuilding in the United Kingdom

(Vessels completed)

	Major war vessels		Mosquito craft		Other Naval vessels[a]		Naval vessels Total	Merchant vessels[c] Gross
	Number	Tons[b] (000's)	Number	Tons[b] (000's)	Number	Tons[b] (000's)	Tons[b] (000's)	Tons (000's)
1939, Sept.-Dec.	17	23	2	0.1	9	3	26	243
1940	106	222	121	6	200	29	257	816
1941	170	346	395	34	314	55	435	1,158
1942	173	300	405	41	605	82	423	1,302
1943	168	292	337	39	1,601	166	497	1,204
1944, Jan.-June	88	150	126	12	907	105	267	.

[a] Including landing craft and miscellaneous craft.
[b] Standard displacement in tons.
[c] Tankers and non-tankers of 100 gross tons and over.

These statistics of ship construction take no account of refitting and repair work, which in the course of the war has necessarily absorbed a large part of the manpower available for shipbuilding. For merchant vessels the proportion was more than half. Increased work of this kind, in preparation for the invasion of Europe and the war in the Far East, caused the rate of new construction of certain types of naval vessel to fall off in 1944. At one period during the war the amount of merchant shipping in hand for repair was over 2.5 million gross tons. In spite of this, the tonnage of merchant vessels constructed in the years 1940/43 averaged nearly one-fifth more than in the years 1915/18.

In 1943 the average rate of monthly deliveries of new aircraft was three times the delivery-rate in the autumn of 1939, and, measured

in terms of structure weight, the increase was nearly six-fold. The difference between these figures reflects the shift to larger and more powerful types of aircraft, particularly heavy bombers. In the first half of 1944 the output of the latter was at the rate of 5,800 a year. In the production of combat vehicles, also, there was a marked shift during the course of the war towards heavier and higher-powered types. Considerably more rapid rates of increase than those attained in aircraft and vehicle production were achieved in the production of most types of weapons, artillery equipment, and ammunition.

Production of Aircraft, Tanks and Service Vehicles in the United Kingdom

	1939 Sept.-Dec.	1940	1941	1942	1943	1944 Jan.-June	Sept. 1939-June 1944
Aircraft							
Heavy bombers	—	41	498	1976	4614	2889	10018
Medium and light bombers	1072	3679	4170	4277	3113	1391	17702
Fighters	447	4283	7063	9850	10727	5655	38025
Other kinds	1405	7046	8262	7568	7809	4674	36864
Total new aircraft	2924	15049	20093	23671	26263	14609	102609
Structure-weight of new aircraft (million lbs.)	11	59	87	133	185	112	588
Armoured Vehicles							
Tanks	314	1397	4844	8611	7476	2474	25116
Carriers, armoured cars, etc.	633	6044	10481	19312	24375	13957	74802
Wheeled Vehicles for all Services (000's)							
Heavy type vehicles	11	113	110	109	104	47	494
Light cars and vans	2	21	17	16	17	8	81
Motorcycles	12	69	71	75	79	39	345

The increase in arms production was made possible by a rapid expansion of the machine-tool industry. While certain special tools still have to be brought from the United States, domestic supplies of most types now outstrip the demand.[1]

The various difficulties of dovetailing one industry into another which arose in the early stages of the development of the war industries were largely overcome by the end of 1942.[2] From that time on, there was a great improvement in labour efficiency. An increase in per capita output of some 25% was apparently achieved in the industries controlled by the Government Supply Services.

One of the vital problems of the war effort of the United Kingdom has been to procure the necessary raw materials and, in view of the

[1] *The Times* (London), September 12th, 1944: "British War Production" (Article by a Special Correspondent).
[2] *Ibid.*

shortage of shipping space, to economize in the use of imported raw and semi-finished products. This was particularly important for the iron and steel industry which normally relies on large imports of high-grade iron ore. The home production of iron ore, which is generally of low grade, has been increased by more than one-half since 1939, and this has enabled the industry to maintain its output of pig-iron, and, with the increased supplies of scrap, to raise steel production appreciably above the average level of 1935-38. An increase in the effective supply of steel going to the munitions indus-

Production of Certain Raw Materials in the United Kingdom

Long Tons (000's)

	1935-38 Average	1939	1940	1941	1942	1943
Iron ore[a]	12417	14486	17702	18974	19540	18487
Pig-iron	7350	7980	8205	7392	7604	7187
Scrap for steelmaking[b]	5800[c]	6379	6527	6622	7688	7782
Steel ingots and castings	11256	13221	12975	12312	12764	13031
Aluminium	18	25	19	23	47	56
Magnesium	2	5	6	11	18	23
Timber[d]	450[e]	880[f]	2467	2797	3460	3821
Newsprint	857[g]	.	294	150	140	129
Other paper and board	1413[g]	.	1523	1240	1147	1031
Cotton yarn	503	487	529	367	327	312

[a] Average ferrous content about 30%.
[b] Supply.
[c] Estimate.
[d] Hardwood.
[e] Production in 1930.
[f] Annual rate of estimated production at the beginning of the war.
[g] Production in 1935.

tries was made possible by heavy cuts in the production of articles for export or for civilian use at home. Thus, the production of motor cars which had totalled 280,000 cars in 1935, had been entirely stopped by 1943; the output of motorcycles had been reduced from 47,000 to 2,000, and that of bicycles and tricycles from 1,600,000 to 540,000. By 1943/44, barely 20% of the total steel supply, including imports (from the United States) was being devoted to purposes other than direct war production. The same was true of non-ferrous metals and timber,[1] the domestic production of which had been increased many-fold. The output of other items in 1943 as a percentage of the 1935 output was as follows: newsprint, 15%; cotton yarn, about 60%; socks and stockings for civilian use, 62%; knitted undergarments, 61%; boots and shoes, 56%.

A notable exception to the success of the war effort in most essential activities has been the coal industry. In spite of the almost com-

[1] *The Times* (London), September 12th, 1944.

plete cessation of coal exports, offset only in part by increased industrial consumption, supplies for other purposes have been scarce. The output of "saleable coal" fell from 231 million tons in 1939 to 194 million in 1943. The number of wage-earners engaged in coal mining fell from 766,000 to 708,000, and the yearly output per wage-earner fell from 302 tons to 275 tons.[1] The decline in productivity was due partly to the increased average age of the miners and partly to labour troubles and transport difficulties. Technical improvements in production were introduced in the summer of 1943 and special measures were taken to recruit young labourers. Young workers have the option of working in the mines instead of joining the armed forces, and miners previously mobilized have in some instances been released.

United States

An even more spectacular expansion in armaments production than that which occurred in Great Britain has taken place in the United States. Industrial production as a whole continued to expand during 1943, though at a slower rate than previously. In 1944 there was a slight decline. By the end of 1944 the general index of the Federal Reserve Board had fallen by 7% from the peak level of October and November 1943, when it was 128% above the 1939 average (*cf.* Diagram 1). This reduction was largely the consequence of the contraction in the labour supply owing to the demand of the armed forces. Indeed, the total number of employed workers declined by 10% between November 1943 and November 1944.

For munitions production, which accounts for the greater part of total industrial production, a separate index is available and is shown below. The index includes aircraft, ships, combat and motor vehicles, communication and electronic equipment, guns, fire control equipment, ammunition and various other supplies.

Munitions Production in the United States

Monthly average 1941 = 100

	1942	1943	1944
1st quarter	213	560	753
2nd quarter	320	640	727
3rd quarter	433	693	713
4th quarter	520	773	707

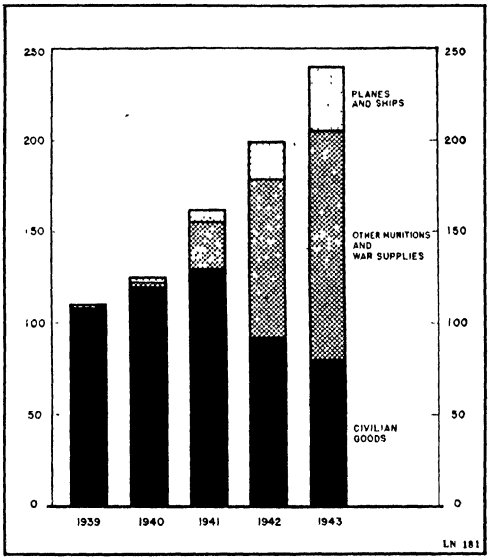
After a nearly eight-fold increase in two years, total munitions production fell off slowly in the course of 1944 from the peak attained in the last quarter of 1943. In absolute figures, the production of aircraft rose from 48,000 planes in 1942 to 86,000 in 1943, and

[1] Ministry of Fuel and Power, *Statistical Digest*, Cmd. 6538, London 1944.

the production of ships rose from 8 million to 19 million dead-weight tons. Aircraft and ships, however, constitute only a minor part (about one-fifth in 1943) of total munitions production. This can be seen from Diagram 2, which shows the composition of total industrial production year by year since 1939.

Diagram 2
Composition of Industrial Production in the United States[a]

1935-39 average of total production = 100



[a] Diagram reproduced from Federal Reserve Bulletin, January 1944, page 3. The figures on physical volume of production for war and civilian purposes are based on estimates for the various stages of manufacturing and mining. Plane and ship production is based on the [Federal Reserve] Board's indexes of activity in the aircraft and shipbuilding industries—for the latter both in private and Government yards. Part of the production of the components for planes and ships, such as aircraft engines, is included in "other munitions and war supplies."

The output of civilian goods rose by 20% between 1939 and 1941; in that year it accounted for four-fifths of total production. Between 1941 and 1943 it shrank by almost 40%, and its share in total production declined to only one-third. The decline fell predominantly on consumers' durable goods, such as automobiles, bicycles and various household appliances. The output of other consumption goods was maintained at a high level. The manufacture of non-durable goods, mostly for civilian consumption, continued to increase up to November 1943, when the output was two-thirds above the 1939 average (*cf.* Diagram 1), but by September 1944 it had fallen off by some 7%. Part of the additional output of goods in this category is now, however, in fact destined for war use, and by January 1945 the group index had again recovered to the point where it stood twelve months earlier.

Once the additional plant and equipment required for the war industries had been set up, the most critical problem of war production was the insufficiency of certain strategic materials. By the end of 1943, however, this problem had largely been solved. Synthetic rub-

ber production, which started almost from scratch in 1941, supplied 243,000 short tons in 1943, and is estimated to have yielded some 850,000 tons in 1944. The production of aviation gasoline is reported to have increased ten-fold since 1941. Aluminium output in the autumn of 1943 was eight times larger than the 1935/39 average, but was deliberately reduced in 1944 by some 15% of the 1943 output. Similar developments have taken place in regard to other metals; by December 1944 total non-ferrous metal production (smelting and refining) was 40% below the peak level reached in the autumn of 1943. Steel production, which in 1939 amounted to 3.9 million metric tons per month, reached a peak of just over 7 million metric tons in October 1943. By September 1944 it had fallen to 6½ million metric tons, but by December it had recovered part of this decline; output in 1944 as a whole was, in fact, over half a million tons larger than in 1943.

As the war progressed the manpower situation became more difficult. The armed forces, which in April 1940 counted about half a million persons, had by April 1944 reached 11 million. Meanwhile, however, civilian employment had increased from 45.5 to about 51 million persons. This made an increase in civilian employment and the armed forces together of more than 16 million. About 7 million of these were drawn from the unemployed, whose number fell from 8 million to 1 million. The remaining 9 million represented new additions to the total labour force. About 2.5 million of these are accounted for by the natural increase of population, and the remaining 6.5 million consist of persons who would ordinarily be students, housewives, self-employed and retired persons. The number of women in civilian employment, including the "natural" increase, rose by almost 6 million; the number of males remained practically constant.[1]

Meanwhile, weekly hours of work were increased. In manufacturing industry as a whole, the average was 36.7 in 1939, 39.0 in 1941 and 45.2 in 1944. There has thus been an increase since 1939 of almost 25%. Hours in the durable goods industries rose from 36.4 to 46.7, and in the non-durable goods industries from 37.0 to 42.9, that is, by 28% and 16%, respectively.[2]

The total number of people employed in manufacturing industry increased from about 10 million in 1939 to 13 million in 1941. It reached a maximum of 17.2 million in November 1943, and had fallen off again by over 1½ million by December 1944. The figures below show the movement of production, employment and productivity in manufacturing industry from 1939 to 1944.[3]

According to these figures the output per man has risen steadily

[1] *Monthly Labor Review*, August 1944.
[2] *Monthly Labor Review*, March and May 1944.
[3] *Federal Reserve Bulletin*, September 1944.

	Annual Averages (1939 = 100)				
	1940	1941	1942	1943	1944
Production	116	155	194	237	232
Employment: Workers	108	132	152	169	159
Hours	109	142	173	201	192
Output per worker	107	117	128	140	146
Output per hour	106	109	112	118	121

since 1939, and by 1944 it was 46% above the 1939 average. Over the same period output per man-hour rose by over 20%.

Production for civilian needs reached its lowest point in the second and third quarters of 1943; since then it has risen slightly. Since productivity in the munitions industries is likely to go on rising, it will probably be possible to release resources increasingly for other uses. In fact, certain industries were already beginning to face the problem of reconversion to a post-war economy early in 1944.

It has been officially estimated that the "cut-backs" in military programmes that would result from the termination of the war in Europe would be about 40%. A law has been passed to guide the procurement agencies of the armed forces in the termination of war contracts, and the War Production Board has organized a special committee to plan for the placing of termination orders in respect of war contracts and for the use of freed resources. Gradually more raw materials were made available for civilian use. In July 1944, some restrictions on the use of aluminium and magnesium were lifted; the manufacture of some models of post-war products was authorized, and the placing of orders for machine tools and equipment for the manufacture of civilian goods was permitted. After August 15th regional directors of the War Production Board were authorized to permit limited production of scarce civilian goods, provided that such production did not interfere with the war effort. Quotas had already been allocated for the making of electric irons, commercial laundry equipment, electric household ranges, etc. With the increasing manpower shortages towards the end of 1944, however, the restrictions on the output of civilian goods were tightened up again.

Canada

Broadly speaking, developments in Canada have been similar to those in the United States. The general index of industrial production (*cf.* Diagram 1) reached its highest point in October 1943, when it was 169% above the 1939 average. By December 1944 it had fallen off by about 10%. At its peak, mining production was more than double and manufacturing output nearly treble the pre-war level. This rapid expansion, which was particularly marked in the iron and steel industry where output increased more than six-

fold, was rendered possible by a rapid expansion of the industrial apparatus in consequence of which a great many more new plants were added during the three years between 1939 and 1942 than had been added during the whole of the preceding two decades.[1] The need for new plant was in large part satisfied by 1942; since 1943 the movement of the manufacturing index has mainly reflected the trend of direct military demand. The peak in shipbuilding was reached in the fiscal year 1943/44, and it was anticipated that there would be a decline of some 15% in 1944/45. Aircraft production is expected to reach its peak in 1944/45. The output of mechanical transport and armoured fighting vehicles will be practically unchanged. "Cut-backs" of various magnitudes are contemplated, or have already begun to take effect, for various types of guns, small arms, miscellaneous equipment, clothing and many other items.[2]

The output of the forestry industries (manufactured timber and paper) which is mainly destined for civilian consumption and export, rose by 50% during the first two years of the war and then declined sharply in 1942. Thereafter, output was kept at a level between 15 and 20% and, during the last three months of 1944, between 20 and 25% above the 1939 figure. Textile production, which had expanded in about the same proportions during the early war years, began to fall off late in 1942; in the autumn of 1944 the relevant group index was about 20% above the 1939 average.

The number of workers employed in manufacturing industry increased by 113% between 1939 and the late autumn of 1943; since then it has declined slightly. The output per worker seems to have risen by 35 to 40%. In the absence of statistics of hours worked, it is not possible to calculate the increase in productivity per man-hour in manufacturing industry as a whole.

Australia and India

In his budget speech of September 29th, 1943, the Treasurer of the Commonwealth of Australia revealed that more than 40% of Australia's working population, or 1,370,000 persons, were in the armed forces or engaged in war production. The total labour force rose from 2.8 million in 1939 to 3.4 million in September 1943. The index number of persons engaged in manufacturing industry rose from the base figure of 100 in 1939 to 137 in the middle of 1943. By October 1944 it had fallen slightly (to 131). No over-all index of industrial production is available. Production for civilian needs, however, is said[3] to have been reduced to only 40% of its pre-war volume. As-

[1] *Monthly Commercial Letter of the Canadian Bank of Commerce*, July 1944.
[2] War Production Conference held at the 73rd annual meeting of the Canadian Manufacturers' Association, *Industrial Canada*, July 1944.
[3] Budget Speech by the Treasurer of the Commonwealth, September 2nd, 1942.

suming that the same or, with rising labour productivity, a somewhat greater reduction has taken place in the number of workers engaged in producing goods for civilian use, it may be concluded that, by 1943, production for war needs alone occupied as many workers as were employed in industry as a whole before the war. It appears that there has been a substantial decrease in the number of workers employed in non-manufacturing activities, more especially in the distributive trades. The general employment index, which covers transport, commerce and mining, as well as manufacturing, fell from an average of 111 for the latter half of 1941 (1939 = 100) to 103 in late 1943 and early 1944.

In India war production was greatly expanded in the first two and a half years of the war in an endeavour to furnish the bulk of the war material supplies for the Middle East. By 1943 production of arms and munitions had increased many-fold, and a start had been made in the manufacture of combat vehicles, ships and even aircraft. Total textile manufacture was nearly 30% greater in 1943 than in 1939. It appears, however, that Indian industry as a whole has not expanded much since 1942. Output of steel and paper even decreased slightly in 1943, owing to shortages of coal, manpower, and transportation facilities.

Free China

The industrial areas of pre-war China were located in the coastal districts which were occupied by the Japanese. During 1943 and 1944 the interior of China was cut off from imports from the outside world except for some airborne supplies. Industrial activity was consequently limited to meeting the most pressing needs. Most of the equipment used had been transferred from Shanghai and Hangkow to the interior. Nearly 500 factories thus transported were operating in 1943, constituting about one-fourth of all privately-owned enterprises in Free China.

Although considerable progress was made up to 1942, usually from extremely small beginnings, the quantities produced were still insignificant in comparison with requirements. This is especially true of the heavy industries. In 1942, only 30,000 tons of iron and 10,000 tons of steel were produced in Free China. Coal production amounted to 5 million tons in 1941 and 6 million tons in 1942. Greater headway was made in the production of industrial alcohol, diesel oil and various kinds of motor spirit, partly derived from vegetable materials. The total output of these motor fuels is reported to have exceeded 9 million gallons in 1942. A small chemical industry has been developed, and there are also some machine-tool factories whose output is, however, still on a small scale.

There are obvious limits to the production of modern implements

of war on such a slender industrial basis. The development of the manufacture of consumers' goods proved less difficult. According to an index published by the Ministry for Economic Affairs in Chungking, industrial production in Free China developed as follows:

Production Indices

(1938 = 100)

	1940	1942
Producers' goods	187	272
Consumers' goods	306	659
Exportable minerals	115	120
Total production	186	302

It should be borne in mind that the quantities produced in the base year, 1938, in the territory covered by the index were very small. The group index for textiles, which constitute the main item under consumers' goods, was 719 for 1942. It is reported[1] that in that year the output of cotton fabrics amounted to 170,000 bales produced from about 45,000 tons of domestically-grown cotton.

After 1942 the development of manufacturing was retarded. This is said to be due to the rapid price inflation which caused raw materials to be withheld for speculative purposes. Moreover, as wage adjustments failed to keep pace with the rapid rise in the cost of living, a marked shortage of industrial manpower developed.

Latin America

Most of the Latin-American countries have experienced considerable difficulty during the war in obtaining the imports of equipment and various raw materials which they need for developing their industries. Nonetheless, some progress in industrialization has been achieved, though it has been uneven.

In Chile (*cf.* Diagram 1) the general index of production was fairly stable from 1941 to 1943 at a level some 13% above the 1939 average. The greatest expansion took place in mining. Manufacturing output rose considerably less,[2] despite a marked increase in the number of workers employed, as is shown by the following indices:

Production and Employment Indices

(1939 = 100)

Manufacturing industry:	1941	1942	1943	1944
(a) Production	114	112	108	110
(b) Workers employed	120	125	119	117[a]
(c) Ratio of (a) to (b)	95	90	91	94

[a] March-July 1944.

[1] *Far Eastern Survey*, August 11th, 1943.

[2] Textile manufacture is a notable exception. The index rose from 100 in 1939 to 127 in 1943 and 136 for the first eight months of 1944.

The fall since 1939 in the ratio shown under (c) above points to an appreciable decline in output per worker. This may have been due to wartime difficulties and the lack of machinery and raw materials.

In Argentina, employment in mining and manufacturing industry rose between 1939 and 1944 as follows:

Index

(1939 = 100)

1940	102
1941	109
1942	115
1943	117
1944	122[a]

[a] Average for first 10 months.

It is estimated[1] that by 1942, the last year for which complete data are available, production had risen by about 17%, or slightly more than the number of workers employed.

In Brazil the industrialization process has made rapid strides during the war. Industrial employment increased from a million workers in 1938 to about a million and a half in 1943. The output of cotton textiles, based on an abundant domestic raw material supply, has increased by 50% since before the war. Various other manufacturing industries have also been expanded, or started, in order to furnish an increasing variety of both consumers' and producers' goods for the home market and for neighbouring countries. Exports of manufactured goods rose from $2.4 million in 1939 to $85.5 million in 1943. The articles exported included textiles, tyres and other rubber manufactures, iron and steel, machine tools, china and glassware. There has been a significant expansion in iron and steel production. The output of pig-iron reached 291,000 tons in 1944, and the output of steel ingots 220,000 tons—a doubling since 1939. The rubber tyre factories, besides supplying domestic needs, have turned out over 5,000 tons for export. The value of mineral production (including mica, quartz and industrial diamonds) has doubled since 1939. Coal production rose from 1 million tons in 1939 to 2 million tons in 1943. The production of hydro-electric power has also been expanded.

In Mexico industrial production was almost constant up to the middle of 1941 (*cf.* Diagram 1). Subsequently, manufacturing output, as represented by the base metal and petroleum refining and textile industries, rose in the aggregate by about 25% up to the third quarter of 1943, the latest date for which data are available. Over the same period mineral production (including gold, silver, and crude petroleum extraction) continued to fall. Efforts to diversify indus-

[1] *Memoria Annal*, 1942, Banco Central de la Republica Argentina.

trial production are said to have been hindered by raw material shortages and difficulties in securing sufficient imports of tools and equipment.

Food Supply

The present review of the food supply situation in the various parts of the world refers mainly to 1943 and 1944. During the three preceding years there had been a steady deterioration in the food supply on the Continent of Europe as a result both of the war itself, and of weather conditions, which were generally unfavourable. In North America and in the British Isles, on the other hand, food production had increased rapidly during these years; it had increased substantially, also, in Latin America and was on the whole well maintained in Oceania and Africa, and fairly well maintained up to 1941 in Asia outside the war-stricken regions of China. A rapid expansion in production took place in the U.S.S.R. prior to the German invasion of its principal food surplus areas.[1]

In a study published recently by the United States Department of Agriculture,[2] an attempt has been made to determine how far food production in 1942 and 1943, measured in terms of calories, differed from the pre-war normal in certain selected groups of countries. The main results of these calculations are reproduced below:

Indices of Food Production by Major Geographical Groups

Average of 1942 and 1943 as % of pre-war average[a]

	Canada, U.S.A., Mexico	Argentine, Brazil, Chile, Uruguay	Australia, N. Zealand, Union of S. Africa	Western Europe and North Africa[b]	Bulgaria, Greece, Turkey, Palestine, Egypt	India, Unoccupied China, Japan
Crops[c]	129	118	96	100	96	103
Livestock products[d]	132	117	113	75	86	94
Total	130	117	101	94	95	103

[a] "The pre-war average differs slightly by countries because of lack of comparable data or in order to obtain a normal period of pre-war production. For most countries the pre-war average was 1933-37, 1934-38 or 1935-39." (*Op. cit.*)

[b] Including 12 countries: United Kingdom, Ireland, Sweden, Norway, Denmark, Germany, France, Italy, Spain, Tunisia, Algeria and French Morocco.

[c] Including cereals, fruit and vegetables, edible oils and sugar.

[d] Including meat, poultry, eggs and dairy products.

[1] Production developments in the first three years of the war are reviewed in some detail in the two preceding editions of the *World Economic Survey* (*1939/41* and *1941/42*). Food production in 1943 was similarly reviewed in *Food Rationing and Supply 1943/44* (League of Nations 1944), to which reference should be made for a somewhat fuller account of that year than is to be found in the present review.

[2] Office of Foreign Agricultural Relations, *Wartime Changes in World Food Production*, by C. M. Purves, Washington, December 1944.

The indices do not include most of central and eastern Europe, large parts of Africa and the Middle East, the U.S.S.R., occupied China or southeastern Asia. They are not, therefore, representative of food production in the world as a whole. Moreover, the index for western Europe covers up the opposite trends which characterized the British Isles on the one hand and Continental Europe on the other. The British Isles expanded domestic production, while Continental Europe in the years shown had poor crops. Moreover, the western continental countries reduced their livestock production much more than the British Isles, where indeed the number of cattle was increased. But the indices do bring out the contrast between the food surplus areas comprising the Americas, Australia and South Africa, and the main deficit area, consisting of western Europe and the Mediterranean Basin, and thus afford a useful general background for the regional review given below.

Continental Europe

During the war the grain harvests in Europe have been constantly below the 1933-37 average. Grain crops were very poor in 1940; a little better in 1941, and again very poor in 1942. The area under potatoes, sugar beet and garden vegetables was extended, and larger quantities of these products were grown, though insufficient to make good the deficiency in grains. A considerable effort was also made to expand the cultivation of oil-bearing plants to compensate for the heavy reduction in imports from overseas. The yields were, however, generally disappointing. At the same time the number of livestock, especially of pigs and poultry, was reduced; livestock products were reduced still more owing to restrictions on the use of fodder.

By 1942, the production of both vegetable and animal foods had dropped very considerably below the pre-war level, reserve stocks had been largely depleted, and imports of foodstuffs from overseas were reduced to a mere trickle. Food supplies were, however, not reduced proportionately. Livestock production in Europe absorbs, it is estimated, on an average about 7 vegetable calories per animal calorie produced. Thus, the restrictions on the use of cereals, potatoes, etc. for feed, and the reduction in animal food production, resulted on balance in a substantial gain in the total supply of calories available for human consumption.[1] Though the total grain supply (production plus net imports) in the year 1942/43 was probably some 15% short of the average for 1938 and 1939, and animal food production had shrunk very much more, the Continent's total food consumption in terms of "per capita intake of energy," may not have been more than 10 to 15% below the pre-war normal.[2]

[1] See Chapter III, pages 131-32, below.

[2] See article entitled "Food in Continental Europe and the Soviet Union," pub-

In 1943 the crop of bread grains was better than in 1942 though—according to revised estimates—not up to early expectations and decidedly below the pre-war normal; the feed grain harvest was poor, and the total grain supply for the year 1943/44 is believed to have been of the same order as in 1942/43 (some 10-15% below the pre-war average) though its composition was somewhat better. A protracted drought, especially in the central and eastern regions of the Continent, caused the potato crop to fail, and the crops of both sugar and fodder beet and vegetables were lower than in the previous year. Though bread rations were increased in most countries, the gain on this account was partly offset on the Continent as a whole by cuts in potato rations. Meat supplies in German-controlled Europe remained low, although inroads were made on the cattle reserves in order to help maintain rations. The supply of animal fats is believed to have declined slightly on balance, although there was some recovery in milk production at the beginning of the 1943/44 season. The shortage of vegetable fats was in part relieved by a larger production of rape-seed in central and western Europe and of olive oil in the Mediterranean areas. This improvement offset whatever further deterioration occurred in the animal-fat situation. In short, the over-all food supply situation in 1943/44 seems to have been about the same as in 1942/43.

The general description of conditions in 1943/44 given above also applies in large part to Germany taken alone, although, owing to the failure of the German potato crop,[1] the total calorie value of the available food supplies may have been slightly smaller than in 1942/43. It is possible, also, that the loss to Germany through military reverses of a very large part of the outside resources she controlled at the beginning of the year 1943/44, may have considerably increased the dependence of her armies upon the domestic food supply.[2] Furthermore, it has to be borne in mind that some 10,000,000 foreign workers and prisoners of war, far exceeding the number of German soldiers killed and captured up to the spring of 1944, had also to be fed out of this supply and the reduced imports.

Conditions similar to those in Germany proper obtained also in 1943/44 in Austria and Czechoslovakia. In the Danubian Basin (Hungary, Roumania, Bulgaria and Yugoslavia) food production

lished in *Foreign Agriculture*, June 1944, Office of Foreign Agricultural Relations, U.S. Department of Agriculture.

[1] The 1943 potato crop is reported to have been some 25 million tons smaller than the 1942 crops, and the smallest in twenty years.

[2] In terms of calories, Germany's takings in 1943 (calendar year) from occupied countries amounted to 10 to 12% of her total intake. This was sufficient to supply nearly the whole German army, so that indigenous food supplies could be kept almost entirely for civilian consumption. Source: (British) Parliamentary Debates (Hansard), 31st October, 1944, Statement on Germany's Food Situation by the Parliamentary Secretary to the Ministry of Economic Warfare.

was definitely larger in 1943 than in 1942, owing mainly to good wheat and rye crops. In northern Italy the crops of bread grains are said to have been satisfactory, the sugar beet crop about normal, the maize crop unsatisfactory and the potato crop poor. In those parts of Italy which had been liberated by the late autumn of 1943—areas which are normally deficient in bread cereals—the grain crops were very disappointing. The wheat crop was 35% lower than in 1940, the barley crop 16% lower, and the maize crop 62% lower. The olive oil production was, however, relatively good.

Food production in France was larger in 1943 than in 1942, mainly owing to a better wheat harvest. On the other hand, imports from North Africa were cut off, while forced deliveries to Germany continued. In the Low Countries, livestock production has been greatly reduced during the war,[1] and the acreage under bread grains considerably expanded, mainly through the conversion of grassland. Yields were reported to be appreciably better in 1943 than in 1942, particularly in Belgium.

In Denmark there has been little change during the war in the total area under grain and root crops, but a certain shift from wheat to rye and from feed-beets to potatoes has taken place. This shift is also reflected in the harvest figures. An almost complete crop failure in wheat occurred in 1942. The yield of grain per acre harvested, as distinct from acre sown, was higher in 1942 and 1943 than before the war, while the yield of beets for feed was lower. The lack of imported feed stuffs on which Danish husbandry largely depended before the war caused dairy and meat production to decline much more than livestock numbers. Some recovery from the low levels reached in 1942 took place in 1943, both in livestock population (especially pigs) and in animal food production (apart from beef and veal).

Sweden also increased her livestock herds and animal food production in 1943. The shortage of fats was further relieved by imports of a certain quantity of oil-bearing materials covered by the "safe conduct" arrangements concluded with the Allies and Germany. The bread-grain harvest in 1943 was about the same as in 1942 (some 15% short of the 1930/39 average).

In Norway and Finland, which normally depend to a great extent on imports of wheat, the bread-grain crop is reported to have been better in 1943 than in 1942, but it was still far below requirements. Finland's meat and butter production, greatly reduced by 1942, also began to recover in 1943. The area under potatoes has been extended

[1] Indicative of that reduction is the reported decline in the Netherlands, between 1931/40 and 1943/44, in the number of milk cows from 1.5 to 1.1 million, of pigs from 1.3 to 0.5 million, and of poultry from 34.9 to 3.9 million. Source: *Bergwerkszeitung.*

in both Norway and Finland during the war, and it is reported that in 1943 the crop was above the pre-war average.

In 1943/44 food supplies in Switzerland were generally lower than in 1942/43 and considerably lower than before the war. Severe droughts on the Iberian Peninsula in 1943 caused heavy reductions of the Portuguese harvest and further strained the precarious supply situation in Spain, where food production had been recovering but slowly from the low level to which it had fallen during the Civil War of 1936-39.

Agricultural conditions on the European Continent deteriorated in 1944 under the impact of increasing shortages of labour, fertilizers, draught power and machinery. They were adversely affected in Germany and elsewhere also by local droughts and by the breakdown of transportation. In spite of all these difficulties the bread-grain crop was probably only some 5% less than in the preceding year; some of it went to waste, however, in the fields. The hay, feed-grain and olive oil returns were considerably lower and those of oil seeds not much, if any, larger than in 1943, although the acreage under oil seeds had been greatly expanded. The potato harvest was again poor. In Germany the 1944 grain and potato harvest as a whole, measured in terms of grain units, was apparently some 5% below that of the preceding year, and the oil seed crop was no greater than in 1943, in spite of the fact that the area under oil-bearing plants had been increased by 25%. Hence the fat supply position remained very precarious. It is anticipated that during the current consumption year (1944/45) the pig population will be still further reduced, and that there will be emergency slaughterings also of cattle, and a substantial decline in milk and dairy production. On top of the reduction in total food supplies, the catastrophic deterioration of the transport situation seriously aggravated the problem of making food available, particularly to the urban populations and to the large numbers of refugees surging in from the eastern areas over-run by the Russian armies, and from the western frontier regions. The eastern areas, it should be remembered, normally have a surplus of food which they sell to Berlin and the highly urbanized western parts of Germany. War developments at the moment of writing are reported to have seriously upset spring sowings and hence greatly worsened the prospects for 1945/46 supplies. During the current consumption year outright starvation has been inflicted upon the population of the German-controlled part of the Netherlands. Considerable hardships in respect of food have had to be endured also by town dwellers in liberated Belgium and France—in the latter country mainly on account of the disruption of its transport system. The 1944 harvest in France is estimated to have nearly equalled that of 1943, part of which, however, was requisitioned by the enemy. Hence total retained supplies at the farms in 1944/45 have presumably been larger than in 1943/44.

Soviet Union

By the spring of 1944 the Soviet Union had regained control of all its principal agricultural regions. But the whole of the territory recovered since July 1943,[1] was liberated after the grain crops were harvested and much of the grain appears to have been withdrawn or destroyed by the retreating Germans.

The 1943 crop harvested east of the battle front of July 1st of that year may have been a little larger than the 1942 crop in the corresponding area.[2] It was still, however, insufficient to cover the normal requirements of the population east of that line, much less to make up for grave deficiencies of food in the territories liberated since the middle of 1943. The over-all supply situation in the Soviet Union continued, therefore, to be very tight, particularly in urban districts, throughout the year 1943/44, although it was relieved to some extent by additional food supplies coming in from abroad, especially in the form of lend-lease shipments.

Meanwhile, the area on which domestic supplies for the year 1944/45 could be raised was substantially increased. The agricultural rehabilitation of the regions that were liberated by the middle of 1943 was proceeding satisfactorily. Moreover, at least half the grain and oil-seed producing areas that were still held by the Germans at that date were recovered in time to be sown to winter crops, and most of the rest were recovered in time for spring sowing. At the same time, certain of the central and eastern regions continued to extend their cultivated area. Altogether, about seventeen million more acres were sown to spring crops in 1944 than in 1943.[3] But the restoration of production where the scorched-earth policy has been applied is necessarily an arduous process, and the experience of this work in the regions that were liberated earlier suggests that those that have been recovered since the summer of 1943 could scarcely be expected to yield more in 1944 than would be required to meet local needs; before the invasion they were in large part surplus areas. Favourable growing conditions have been reported from the regions untouched by invasion, and, although considerable harvesting losses may have occurred, the total grain harvest of the Union probably was considerably larger in 1944 than in 1943.[4] The production of sugar beet, potatoes and vegetables—particularly in factory-workers' gardens—of fruit, medicinal plants and various industrial crops is also

[1] The development of the U.S.S.R. food supply situation during the war prior to that date is summarized in *Food Rationing and Supply 1943/44* (League of Nations 1944), pages 82-84.

[2] The decline in 1943 yields, caused by serious drought in certain areas, may have been outweighed by the additional crops gained from the extension of grain cultivation in the regions which had not been touched by the German invasion.

[3] It is reported that the area sown to winter wheat and rye was 12 million acres more in the autumn of 1944 than in the autumn of 1943.

[4] *Foreign Agriculture*, January 1945, U.S. Department of Agriculture.

reported to have increased, and is being further encouraged. According to the agricultural programme for 1944, great efforts were to be made to replenish the livestock population, particularly in the Ukraine. By the end of 1943, the liberated areas had received from the eastern regions 1.2 million head of livestock, and more than a million additional head were to be delivered in the summer of 1944. In the Soviet Union as a whole, the most severe shortages are in animal products. Reports that the general food situation has continued to be tight since the last harvest indicate, however, that vegetable produce, too, is still in short supply. The position of the western regions may be relieved in part by the acquisition of surpluses from the Danubian countries.

Large quantities of tractors, ploughs, and other equipment have been moved into the destitute regions to help in their agricultural rehabilitation. But, as was indicated in Chapter I, the reconstruction of the highly mechanized system of farming in the Ukraine is an enormous task, and is bound to take considerable time.

British Isles

The recently published official statistics for the United Kingdom[1] testify to the remarkable wartime achievements of British agriculture.

The tillage area was enlarged by two-thirds in five years through the conversion of permanent grassland. The most striking increase took place in the acreage under grain, which is now greater than it has been at any time in the past 75 years, or, indeed, in the history of British agricultural statistics. The increase in production, which was so vital for saving shipping space, slightly exceeded the increase in acreage. Indeed the yield of wheat per acre rose by about 8% between 1939 and 1943. The 1944 wheat crop, according to preliminary figures, was not quite as good as that in 1943, though the yield per acre was still above the average. The estimates for barley and oats, sugar beets and potatoes are, however, above the 1943 returns.

In addition to the expansion which has taken place in the recorded farm area under vegetables, there has been an increase in allotments and private vegetable gardens not covered by the agricultural statistics. The number of allotments rose from 830,000 to 1,675,000, and the number of private vegetable gardens from 3 million to 5 million during the first three years of the war. The number of tractors nearly trebled during the same period, rising from 55,000 to 150,000, and the number of tractor implements increased nearly six-fold. British agriculture thus became the most highly mechanized in Europe.

Before the war between 8 and 9 million tons of feed stuffs were

[1] *Agricultural Statistics, 1939/44*, Ministry of Agriculture and Fisheries, Statistics Branch, London 1944.

Acreage and Production of Principal Crops in the United Kingdom

	Cultivated area acres (000's)			Estimated Production long tons (000's)				
	1939	1943	1944*	1936/38	1939	1941	1943	1944'
Wheat	1766	3461	3230	1651	1645	2018	3449	3142
Barley and oats	3440	5462	5664	2705	2895	4390	4700	4800
Other grains ..	102	635	532	86	83	464	489	442
Total grain ...	5308	9558	9446	4442	4623	6872	8638	8384
Sugar beet ...	345	417	434	2741	3529	3226	3760	3873
Potatoes	704	1391	1421	4873	5216	8010	9822	9859
Turnips, for fodder ..	727	830	827	10994	10100	12026	11991	11627
Mangolds	216	286	309	4082	4069	5107	5805	5459
Vegetables for human consumption (excl. potatoes)[1] ..	280	375	466	.	.	.	.	.
All other crops	859	1405	1483	.	.	.	.	.
Bare fallow ...	374	240	231	—	—	—	—	—
Total of crops and fallow (Tillage area)	8813	14502	14617	.	.	.	.	.
Temporary grass	4093	4217	4752	.	.	.	.	.
Total arable land	12906	18719	19369	.	.	.	.	.
Permanent grass	18773	12319	11698	.	.	.	.	.
Total cultivated area (excl. rough grazings) ...	31679	31038	31068	.	.	.	.	.
Rough grazings	16539	17111	17172	.	.	.	.	.

* Preliminary data.

[1] Commercially cultivated areas only, excluding allotments and home gardens.

imported as such or produced from imported materials. These imports have been reduced to small dimensions in order to save shipping space, and the effects on husbandry have necessarily been profound. The situation has been met in part by a reduction in livestock numbers (see table below) and in part by increased domestic production of feed stuffs. The total acreage under crops other than grain grown specifically for feeding stock, *i.e.*, beans, roots, green crops, etc., has increased by nearly 600,000 acres, or over 40%.

The necessary economy in the use of feeding stuffs has been effected largely through the reduction in the number of pigs and fowls, and the ploughing up of grassland has led to a reduction in the number of sheep. The cattle population, on the other hand, has risen

Livestock Population in the United Kingdom

According to June returns (000's)

	1939	1941	1943	1944
Cows and heifers in milk	2841	2878	2910	2931
Cows and heifers in calf	1044	1110	1414	1446
Total	3885	3988	4324	4377
Other cattle	4987	4952	4935	5169
Total cattle	8872	8940	9259	9546
Total sheep and lambs	26887	22257	20383	20340
Total pigs	4394	2558	1829	1875
Fowls	69530	58083	46371	50301
Ducks, geese and turkeys	4897	3976	4358	4906
Total poultry	74357	62059	50729	55206
Horses for agricultural purposes	724	747	693	658
Other horses	355	307	264	260
Total horses	1079	1054	957	918

* Preliminary data.

appreciably since 1939, and is now higher than it ever has been. Milk herds have grown most, in accordance with the Government's policy of promoting milk production. It has, however, been difficult to maintain yields. While it is estimated that the total supply of milk used in various forms for human consumption is greater than before the war, and the amount going into consumption as fresh milk under milk-marketing schemes increased by 37% between 1938/39 and 1943/44 (June to May years), the quantity manufactured or used for feeding livestock has been reduced. The scarcity of feed stuffs has reduced the production of beef, in spite of the increase in cattle.

Owing mainly to the requisitioning of fishing craft for naval purposes, total landings of fish have been much lower than before the war, as is shown below:

Landings of Wet Fish of British Taking[a]

cwts. (000's)

1938 20,907	1940 6,268	1942 6,091
1939 15,687	1941 4,904	1943 6,175

[a] *Statistics relating to the War Effort of the United Kingdom.*

In Eire, also, there has been a large extension of the cultivated area. Farmers were obliged, after the outbreak of the war, to keep a minimum proportion of their land under the plough, and the minimum has been gradually increased. The area under wheat rose from

255,000 acres in 1939 to 578,000 acres in 1942. In 1943 it fell back by some 12% and the harvest declined by roughly 25%. The Government, however, took measures[1] which resulted in the area under wheat being raised in 1944 to 642,000 acres, on which it is reported crops of good average yield were harvested.

There has been no lack of meat nor any general shortage of most other animal products in Eire, though scarcity of fodder has caused a decline in butter production of some 10% and a reduction in pig and sheep numbers by 58% and 17% respectively, since 1940. By 1943 exports of pork had ceased and those of mutton and lamb were insignificant. Cattle herds, on the other hand, have slightly increased since 1940. Shipments, in 1943, of slaughter cattle to the United Kingdom amounted, in terms of meat, to about twice the estimated domestic consumption of beef and veal. Total agricultural exports have, however, shrunk sharply, as is shown by the following official figures of the disposal of Eire's agricultural output:

Percentage Value of Total Output

	1938/39	1942/43
Consumed on farms	33.0	40.8
Other home consumption	29.2	37.0
Exported	37.8	22.2
Total	100.0	100.0

Far East

Food supplies during the war are said to have been less inadequate in Free China than in occupied China.[2] Before the outbreak of the war with Japan more than half of China's crop production was derived from the territories constituting the Free China of 1943.

The gross tonnage of total food crops in Free China was up to the pre-war average in 1943. As will be noticed from the table, certain changes in the composition of that total and hence in consumption have taken place in recent years: sweet potatoes and also wheat have been substituted to some extent for rice. Though there have been serious local shortages in some areas, Free China now produces a quantity of cereals "more than equivalent to its needs. It lacks acutely, however, certain foods, some of which were imported before the war."[3]

Occupied China, on the other hand, has suffered a heavy decline in per capita food consumption, owing to a series of floods and droughts. The situation was aggravated by Japanese requisitions, by

[1] *Cf. Food Rationing and Supply 1943/44* (League of Nations 1944), page 86.
[2] See Owen L. Dawson, "China's Food Problem," in *Foreign Agriculture*, May 1944, U.S. Department of Agriculture.
[3] *Op. cit.*, page 102.

Production of Specified Crops

Short tons (000,000's)

	All China			Free China as of 1943			
	Average 1931-37		%[a]	1940	1941	1942	1943
Rice	55.4	43.5	(78)	36.5	37.7	37.3	39.6[b]
Wheat	23.8	9.3	(39)	11.1	9.1	10.9	10.6
Barley	8.6	4.6	(54)	4.7	4.1	4.9	4.5
Maize	7.1	3.3	(46)	3.7	3.7	3.2	3.8
Other Cereals	17.8	3.9	(22)	3.5	3.5	2.8	3.5[b]
Total cereals	112.7	64.6	(57)	59.5	58.0	59.2	62.0[b]
Sweet potatoes	19.8	11.9	(60)	14.1	15.3	13.4	15.5
Peas and broad beans	6.8	4.7	(69)	5.0	4.4	4.9	.
Soya beans	6.7	2.2	(32)	2.1	1.9	1.6	1.9
Total food crops	146.0	83.4	(57)	80.8	79.6	79.2	84.0[b]
Ground nuts	3.0	1.1	(36)	1.3	1.3	1.2	.
Oil seeds	3.6	2.4	(67)	3.1	2.9	2.8	.
Cotton	0.7	0.2	(30)	0.3	0.3	0.3	.
Tobacco	0.7	0.5	(72)	0.6	0.5	0.5	.
Grand Total	154.0	87.6	(57)	86.1	84.5	84.0	.

[a] Percentage of "All-China" crop.
[b] Preliminary figure.

the virtual cessation of imports and by the stopping, in large part, of the normal movement of foodstuffs from the regions now constituting Free China into the occupied areas.

Good prospects for the 1944 crop in the fifteen provinces of Free China were reported in July. For both winter and spring crops a total production somewhat above the pre-war average was expected. At the moment of writing final returns were not yet available.

The available information about Japan's food supply is scanty. The rice crop in 1942 was apparently good, perhaps some 20% larger than in the previous year, and, though the wheat crop was only moderately good, food conditions during the 1942/43 season were probably not unsatisfactory. The 1943 rice crop seems to have been slightly below normal. The wheat crop, according to the latest (unofficial) estimate available,[1] which contrasts sharply with higher estimates given previously, was some 20% below the 1935/39 average. The supply of fish, one of the main items in the national diet, is also believed to have been substantially reduced.

In India, the famine which broke out in 1943 and had particularly serious effects on the urban districts of Bengal during the summer and early autumn, was brought under control towards the end of the

[1] *Foreign Crops and Markets*, U.S. Department of Agriculture, September 18th, 1944.

year or in the first months of 1944.[1] The large imports of wheat, mainly from Australia, arranged by the Central Government, and the exceptionally heavy rice crop harvested in the late autumn and winter months both contributed to this result. The 1943/44 rice crop, which was estimated at 2,287 million bushels, or 23% above the small crop of 1,861 million bushels harvested in 1942/43, was, in fact, the largest realized in two decades. On the other hand, the new wheat crop, amounting to 362 million bushels according to the latest official estimate, was barely average and was considerably smaller than the 412 million-bushel record crop of 1943. Thus, in view of the large annual increase in population (about 6 million at present) and of the tendency which has been apparent in recent years for increasing amounts of grain to be consumed on the farms or hoarded, it appears that the food situation in India will continue to be tight in 1944/45. A recurrence of the tragic famine conditions experienced in 1943 is not, however, to be expected, for the power of the Central Government to take preventive measures has been strengthened, and the provincial and state Government controls have been made more effective than they were a year ago. The acreage under both rice and wheat in 1944/45 is estimated to be somewhat larger than 1943/44.

No early resumption of rice imports from Burma on anything like the pre-war scale is to be expected after the liberation of that country. While prior to the Japanese invasion Burma usually exported over half her rice crop, she is now believed to produce less than her normal consumption requirements because of the break-down of internal transport, requisitioning of men and cattle for engineering works for the invading army, and slaughtering of cattle for food. The great majority of the farmers use cattle or buffaloes for ploughing. It is estimated that by 1944 one-third of the pre-war number of working cattle and buffaloes had been slaughtered, worked to death in strenuous transport and construction undertakings or had perished from disease. Normal rice production in Burma cannot be expected again without a restoration of the cattle population—a process which is estimated to require at least three to five years—or equivalent import of tractors which, however, are less suitable than draught animals for ploughing the flooded areas of lower Burma, where most of the rice is grown.

Middle East and French North Africa

During the war the countries of the Middle East (Iraq, Iran, Turkey, Syria and Lebanon, Palestine, Transjordania and Egypt) have tended to put more land under cereals and vegetables, and in certain

[1] A fairly full account and analysis of the circumstances which upset India's precarious food balance and brought about the famine is given in *Food Rationing and Supply, 1943/44*, pages 88-90.

cases to reduce industrial crops. In Egypt, for instance, the Government adopted measures which resulted in a substantial shift from cotton to food crops.

Unfavourable weather conditions and other factors, such as lack of fertilizers, caused yields to fall, however, and the crops in 1941 and 1942 were below average. Indeed, the 1942 wheat crop in the Middle East as a whole was the lowest in more than a decade, and had to be supplemented in the course of the year 1942/43 by substantial imports from overseas arranged by the Middle East Supply Centre. The situation was further aggravated by inflation, which led to hoarding by the farmers. In order to make the short supplies of bread cereals go round, recourse was had to higher extraction rates and the admixture of feed grains or bean flour. Rationing, also, had to be imposed (primarily in urban areas) or, where it was already in force (as in Turkey), to be tightened. The 1943 wheat crop was, however, good. It is estimated that the combined wheat harvests of all the countries here considered, with the exception of Transjordania, probably exceeded 300 million bushels. This figure is one-third larger than in 1942 when this crop was estimated at 225 million bushels, and is above the pre-war average for the area. Hence, the Middle East bread grain situation improved considerably in the year 1943/44. The improvement was particularly marked in Iraq and Iran, where conditions in 1942/43 had been the most difficult. The 1944 crop in Turkey, Syria, Lebanon, Palestine and Iraq combined was almost as large as the 1943 crop. In Iran the area under wheat is reported to have exceeded the already enlarged acreage harvested in 1943. In Egypt a subnormal wheat crop was offset, at least in part, by a large rice crop.

In French North Africa, which normally exports grain to the mother country, wheat crops during the war have been persistently lower than in 1939, and in every year but one (1941) they have been below the 1934/38 average. A serious food shortage was encountered in the larger cities when the liberating forces landed in Morocco and Algeria. It was due, in large part, to the fact that a substantial part of the small crop of 1942 had previously been exported to France to bridge over a season-end deficiency of wheat. The shortage in the North African area was relieved in the course of 1943 with the help of comparatively small shipments, mainly of grain, arranged by the Allies. The 1943 wheat crop, though not large enough to provide a surplus for export, should have sufficed for normal local requirements. The 1944 crop, however, as a result mainly of protracted and widespread drought, turned out to be the poorest of the war period—so poor, in fact, as to call for supplementary imports.

Wheat Surplus Position in the Chief Exporting Countries

The main food reserve for the early relief of impoverished areas in Europe and other deficit regions reviewed above is to be found in the wheat surpluses of the four principal wheat exporting countries, Canada, the United States, the Argentine and Australia. The development during the war of the supply situation of these four countries taken together is summarized in the following table.

Wheat Acreage and Supplies

Totals for Canada, U.S.A., Argentine and Australia*

Crop-Year	Area under Wheat[a] (Millions of acres)	Initial Stocks	Supplies		Domestic Utilization	Surplus for Export or Carry-over	Net Exports	Season-end Stocks
			Crop[b]	Total				
			Millions of Bushels					
1937-38	141	206	1449	1655	961	694	393	301
1938-39	140	301	1814	2115	996	1119	485	634
1939-40	121	634	1603	2237	953	1284	504	780
1940-41	121	780	1734	2514	947	1567	454	1113
1941-42	114	1113	1663	2776	982	1794	377	1417
1942-43	100	1417	1922	3339	1302	2037	352	1685
1943-44	97	1685	1485	3170	1665[c]	1505[c]	430[cd]	1075[c]
1944-45	114	1075[c]	1720	2795	...	...	...	...

* Sources: Dominion Bureau of Statistics, Canada: *Monthly Review of the Wheat Situation*; U.S. Department of Agriculture: The Wheat Situation, Crop Production, *Foreign Crops and Markets*; Food Research Institute, Stanford University, *Wheat Studies*.

[a] Area planted to the 1937 crop, 1938 crop, etc.

[b] Harvest of 1937, of 1938, etc.

[c] Provisional estimate subject to revision.

[d] In 1943-44, for the first time during the war, the United States was a net importer of wheat. These net imports, amounting to 77 million bushels, were used entirely for feed and are deducted here.

Owing to a series of large harvests, the estimated carry-over rose from a little more than 600 million bushels just before the outbreak of the war in 1939 to nearly 1,700 million by the end of the 1942/43 season. The harvests were larger owing to high yields. The total acreage was reduced by nearly one-third in six years. The four governments in fact endeavoured to check the rapid increase in supplies and to divert resources to the production of more immediately needed foodstuffs.[1] But the average yield of wheat rose from 13 bushels per acre in 1938 to over 19 bushels in 1942, and at the same time exports declined, as continental Europe was unable to purchase. Supplies (*i.e.*, production plus carry-over) in 1942/43 thus reached a total more

[1] Wheat acreage was diverted mainly to feed grains and oil-bearing plants. Thus, in the United States, where the harvested acreage under 49 crops, excluding wheat, cotton and tobacco (all three subjected to area restriction), increased by 30 million acres or some 12% between 1939 and 1943, the whole of this expansion was accounted for by crops destined primarily to support livestock and vegetable-fat production.

than three times as large as the normal domestic "disappearance" of wheat in the four countries. From that year onwards, however, wheat was used much more extensively for purposes other than food, particularly in the United States. Increasing amounts were fed to livestock, or were turned into alcohol for the production of synthetic rubber, or for other war purposes. In the Argentine, wheat was even used as fuel in place of coal.[1]

In 1943/44 there was a sharp fall in the aggregate crop,[2] a continued rapid expansion in the use of wheat for non-food purposes,[3] and some rise in net exports.[4] As a result, the combined carry-over declined to roughly 1,100 million bushels. In anticipation of relief shipments and increased requirements for purposes other than bread, acreage restrictions were removed or relaxed in 1943, and the area planted under wheat for harvesting in 1944 was substantially increased both in the United States and in Canada. Good yields resulted in a record crop in the United States—in fact, the largest in the nation's history—and an average crop in Canada. The crops of the Argentine and Australia were both very small, owing to drought. The Argentine crop was two-thirds and the Australian crop less than one-third of normal. But the aggregate harvest of all four countries was the second largest of the war period. Including the estimated carry-over, the total supply of 1944/45 amounts to about 2,800 million bushels.

At the end of August 1944 the International Wheat Council, reviewing the prospective wheat situation in 1944/45, suggested that, out of the supply which was expected then to amount to approximately 3,000 million bushels, allowance should be made for domestic requirements in the four countries of some 1,400 million bushels—about 700 million for food and 700 million for seed and other non-food purposes. It will be noticed that the latter figure implies a sub-

[1] 50 million bushels of old wheat were so used in 1943/44.

[2] Most of the drop took place in Canada, whose wheat harvest shrank from 557 million bushels in 1942 to 285 million in 1943. But also in the United States and Australia the harvests declined, from 974 to 841 and from 156 to 108 million bushels, respectively.

[3] In the United States, domestic "disappearance" of wheat in 1943/44 compared with past years and with the forecast for the current consumption was as follows:

	Food	Feed	Seed	Industrial Alcohol	Total	Net Exports
Average 1932/41	479	117	81	—	677	33
1941/42	529	303	65	55	952	33
1943/44	543	503	79	108	1,233	—77
1944/45 (forecast)	535	230	80	70	915	65

The 1943/44 net imports of 77 million bushels included in the domestic "disappearance" for that year were all for feed use.

[4] Exports, including the 77 million bushels net [*cf.* (2) above] imported by the United States from Canada, approached 500 million bushels, according to the preliminary data available.

stantial reduction from the quantity which was actually allocated to non-food uses in 1943/44.[1] From the total supply now estimated at roughly 2,840 million bushels there would then remain some 1,400 million bushels for export and carry-over. The Wheat Council assumes that net exports in 1944/45 may amount to about 600 million bushels,[2] which is nearly 200 million bushels in excess of the net exports in 1943/44; this would give a carry-over at the end of July 1945 of about 800 million bushels, including 200 million bushels for minimum working stocks in the four countries, and an exportable balance of approximately 600 million bushels.

It is relevant to note that in the three harvest years prior to the outbreak of the war, an average of 160 million bushels of wheat per year were imported[3] into Continental Europe; of these, 138 million bushels came from the Argentine, Australia, Canada, and the United States. Continental Europe's own crop averaged 1,626 million bushels per annum in that period. The British Isles produced about 85 million bushels per annum and imported some 200 million bushels, of which 172 million bushels came from the four countries mentioned. The aggregate of 310 million bushels imported by Europe from those countries represented about three-fourths of their total net exports. At present, and presumably for some time to come, little wheat, if any, is or will be obtainable from other extra-European sources. After five to six years of war, which have led to a decline in production and a depletion of stocks, the Continent's import requirements have greatly increased. The 1944 wheat crop of Continental Europe was probably not more than 1,300 million bushels, and it may have been even smaller. In order to bring current supplies from production and imports combined up to the pre-war average (1,626 *plus* 160 = 1,786 million bushels), net imports of nearly 500 million bushels would thus be required by Continental Europe alone. An even larger amount would be necessary if stocks were to be restored to their pre-war level. In the British Isles, on the other hand, where wheat production in 1944 seems to have been about 75 million bushels above the pre-war average, net imports of 125 million bushels would suffice to bring supplies in 1944/45 up to the pre-war average. The total of these purely hypothetical import figures for Europe (600 to 625 million bushels) is equal to well over one-half of the estimated carry-over.

United States

Total crop production in 1942 was the largest in the history of the United States. The 1943 harvest was smaller, but still well above the

[1] See the 1944-45 forecast for the United States, page 109, footnote 3.
[2] Net exports from the United States of some 65 bushels are officially forecast for 1944/45.
[3] Net imports of wheat and wheat flour in terms of grain.

average for most crops. In 1944, greater yields from larger acreages[1] again raised total crop production almost to the record level of 1942. The production of vegetables, even disregarding victory-garden crops which are not covered by the statistics, shows the most rapid advance since 1939, as may be seen from the official index of production by main categories of crops, which is reproduced below:

Crop Production in the United States

1923-32 (pre-drought) average = 100

	Field crops	Fruits	Vegetables for: Processing	Vegetables for: Market	All crops
1939	99.3	125.4	124.4	141.2	102.7
1940	104.3	126.2	153.9	139.4	107.3
1941	106.5	130.2	188.1	137.6	109.8
1942	121.3	136.0	225.1	144.4	123.9
1943	114.1	126.0	202.9	154.1	116.8
1944	120.2	137.8	207.8	175.6	123.7
1944 as % of 1939	121.0	109.9	167.0	124.4	120.4

Source: *Crop Production*, Annual Summary, 1944, U.S. Department of Agriculture.

The meat production in 1944 was more than 26 million pounds: almost 10% above the 1943 figure and nearly two-thirds above the average for 1935-39. The production of milk for human consumption in 1944 was about the same as in 1943, when it was 14% above the pre-war average. Butter production was 8% less than in 1943. The output of lard, margarine and other fatty substances, however, has been rapidly expanded with the result that, by 1944, total production of food oils and fats, including butter, was about 30% above the 1935-39 average.

The rapid increase in over-all food production during the war has been accompanied by large increases in food requirements, especially in the demand for animal food products. Men in the armed forces consume much more and better food than they did in civilian life. In addition, lend-lease operations[2] have absorbed an increasing pro-

[1] The total harvest-area under 52 crops increased by 5½ million acres from 346.6 million in 1943 to 352.1 million in 1944, compared with an average for 1933-42 of 327.7 million acres.

[2] The lend-lease aid furnished up to December 31st, 1944, is valued at 35,400 million dollars, of which shipping and other services accounted for 11%, munitions for 51%, industrial items 24%, and foodstuffs and other agricultural products for 14%. The size of the last item and its relative share in the total has been as follows:

	1941	1942	1943	1944	Cumulative Total 1941/44
Total Lend-Lease	$1,244	$7,009	$11,733	$15,400	$35,386
Of which foodstuffs, etc. ...	371	898	1,321	2,365	4,955
Per cent	29.8	12.8	11.3	15.4	14.0

Of total lend-lease exports of foodstuffs up to the end of December 1944, 61.3% by value, went to the United Kingdom, 28.9% to the U.S.S.R., 5.7% to Africa, Middle East and the Mediterranean Area, and 4.1% to China, India, Australia, New

portion of total production: it was estimated that between their inception and the middle of 1944 they accounted for nearly 10% of total food production over the same period. But in spite of these war demands the response of the farming community to the needs of the times has been such that domestic civilian consumption has risen, especially among the lower-income groups, with the rise in average income. During 1944 civilians ate 140-145 pounds of meat per capita, or 12-16% more than in 1935-39. Civilian butter consumption, on the other hand, had fallen from 16.7 to 10.5 pounds per capita, and the per capita consumption of food fats as a whole was down by some 13%. Sugar consumption in various forms had fallen by 9%, and consumption of fruits and fruit-products by 5%. Since, however, civilian consumption of flour and grain products and of vegetables, not counting city garden produce, had increased by some 8%, over-all civilian food consumption per capita in 1944 was, according to official estimates,[1] at least 7-8% above the average for 1935-39.

British Dominions

In Canada agricultural conditions during the last few years have been broadly similar to those in the United States. The decline in crop production in 1943 from the record volume of 1942 was, however, heavier, and the recovery in 1944 was less spectacular. The 1944 wheat crop was about average, while exceptionally good yields from a reduced acreage under other cereals resulted in a large harvest of feed grain. Meat production in 1944 was tentatively estimated at about 2,500 million pounds. Total milk production in 1944 is estimated to have been slightly higher than in 1943 and much above the pre-war level. The heavy demand for fluid milk, however, has made it difficult to maintain the production of butter.

The rapid over-all increase in Canada's agricultural output since 1939 has made it possible to increase domestic civilian supplies of most food products very substantially, despite the fact that heavy military requirements have had to be satisfied and that food exports to the United Kingdom and other United Nations have been at high levels.

In Australia, whose agricultural exports, owing to the long distances involved, have been particularly affected by the shortage of shipping space during the war, expansion of food production as a whole was not encouraged in the early years of the war. Since 1942, however, the armed forces of the United States in the southwest Pacific have made increasing demands on Australian food produc-

Zealand and some other countries. These exports were offset in some part by reverse lend-lease of local food products delivered to the United States armed forces stationed in certain of the countries concerned.

[1] A shift in acreage from coarse grains back to wheat was noticeable in 1944.

Indices of Per Capita Supplies of Food Moving into Civilian Consumption in Canada

1935-39 average = 100

	1943	1944		1943	1944
Beef	125	129	Butter	90	88
Veal	97	108	Lard	262	262
Mutton and lamb	84	71	Other fats and oils	85	84
Pork (excl. lard)	144	150	Fats, all kinds	105	104
Meat, all kinds	129	132	Grain products	109	107
Poultry, game, fish	121	106	Pulses and nuts	92	126
Eggs	116	121	Potatoes	105	97
Fluid milk	113	117	Tomatoes	95	107
Dairy products, all kinds (excl. butter)	116	119	Other vegetables	85	109
			Fruit and fruit products	112	122

Source: Dominion Bureau of Statistics, *Quarterly Bulletin of Agricultural Statistics.*

tion. In the latter part of 1943, it became necessary to release farm workers from the Australian army to relieve the labour shortage in agriculture, particularly in the dairy industry. Taking account of domestic consumption, exports to Britain, and deliveries to the United States forces, it was estimated that in 1944 Australia, a country with 7,000,000 inhabitants, was feeding some 12,000,000 people.

The wheat acreage in Australia has been reduced by over one-third since 1939; hence, the wheat crop, while varying a great deal from year to year, has been smaller on the average than before the war. The 1944 crop, in consequence of a serious drought, turned out to be a complete failure. Estimated at 50 million bushels, it is far below domestic requirements, and the exportable surplus of old wheat may well be wiped out in the year 1944/45. According to a statement made by the Minister of Agriculture for Victoria, "it might become necessary to import wheat from overseas to ensure adequate supplies in 1945 for the Australian population and forces in the southwest Pacific and to feed stock."[1]

The effect of the 1944 drought on the livestock industry was particularly marked in the case of sheep, and was reflected in the wool clip of the 1944/45 season. Millions of sheep perished and, although the cattle population as a whole suffered less, "it is the consensus of informed opinion that the peak of Australia's beef production has been passed, and that output will decline until herds throughout the southern part of the continent can be restored. It is expected that this will take six to eight years to accomplish."[2]

In New Zealand and the Union of South Africa agricultural conditions during the war have been similar to the pre-drought condi-

[1] "Australian Cable" in *Monthly Review of the Wheat Situation,* December 1944, Dominion Bureau of Statistics, Agricultural Branch, Ottawa.

[2] *Cf. The Times* (London), November 24th, 1944.

tions in Australia, except in one respect. Since before the war neither South Africa nor New Zealand grew enough wheat to satisfy domestic requirements, some extension of the acreage under wheat has been encouraged during the war in both countries. A notable increase in livestock numbers, with the exception of sheep, has taken place in South Africa; the upward trend (since 1937) has been particularly marked in the case of cattle. In New Zealand the sheep population at the end of April 1944 was the largest on record: cattle numbers have remained approximately at the 1934/38 average.

Latin America

The Argentine wheat crop of 1944/45 is officially estimated at 156 million bushels. This is the poorest harvest since 1939, and is only 65% of the 1932/41 average of 240 million bushels. Since the balance of unsold old wheat is still large, however, some 200 million bushels in excess of anticipated domestic requirements will be available for export during the new crop year, or for carry-over at the end of November 1945. The new maize crop to be harvested in March and April 1945 is reported to have suffered considerable damage from drought. It is consequently expected to be substantially smaller than last year's good crop of 344 million bushels, though not as small as the 76 million-bushel crop which was harvested after the exceptionally severe drought that prevailed late in 1942 and in the early part of 1943. In 1944, livestock production, both in the Argentine and in Uruguay, is reported to have recovered satisfactorily from the effects of the 1942/43 drought, which caused huge losses of cattle. In Brazil, the production of beef and veal, representing some 77% of the commercial meat supply, has declined considerably since 1942, the peak year of war-time exports. In 1944 production was barely adequate to meet the domestic demand, which has increased with the rise in incomes resulting from the all-round economic expansion during the war.

For the other Latin-American countries only incomplete and scattered statistics are available for recent years. Most of these countries have in the past specialized in the export of one or two food products and have imported others, and there seems to have been a fairly general tendency during the war towards increased diversification of crop production and the encouragement, also, of livestock production.

CHAPTER III

CONSUMPTION AND RATIONING

The object of this chapter is to show the changes in consumption during the fourth and fifth years of the war. A first section, based largely on information contained in the League's study on *Food Rationing and Supply, 1943/44* surveys the food situation up to the summer of 1944. A second section deals with consumption other than food, and a concluding section shows, but more summarily, changes in the food situation during the second half of 1944.[1]

Consumption and Rationing in the Summer of 1944

The supply of foodstuffs during the fourth year of war was on the whole as large as, or larger than, during the preceding year, though in the chief belligerent countries in Europe and Asia it was far below peace-time levels. In Europe the situation was improved by the relatively favourable 1943 crop, but in India dislocations in the system of distribution led to serious local famine.

It is difficult, and often impossible, to give more than general indications of levels of food consumption. The bulk of the available information is contained in rationing regulations. It comes through with unavoidable delays and is not always complete or trustworthy. Moreover, rations are differentiated both according to consumer categories and according to localities, and it is generally impossible to calculate national averages or to determine what are truly "typical" rations. The rationing period is frequently changed as a means of varying rations, and such changes are not always easy to trace.

But even if the rationing data were in all respects complete and trustworthy, they would relate to legal rations only. In North America, the United Kingdom, Sweden, and Switzerland, and probably also, during this period, in Germany, rations were honoured in full, but in the occupied areas animal foods, in particular, were wholly or partially unobtainable for shorter or longer periods. In some cases wages were increased less than food prices, and the poorer sections of the population may have been unable to buy the full official rations. On the other hand, rationing is almost invariably accompanied by a "black market." Available reports indicate that the quantity of goods handled on the black market has been increased all through the war, and that it has played a by-no-means negligible role over the greater part of Europe. The actual extent of black-market operations depends on a number of circumstances—the efficiency of the administration, the extent to which governments succeed in controlling the sources

[1] The reader is referred to *Wartime Rationing and Consumption*, League of Nations, 1942, for a discussion of the technical problems of rationing.

of supply, monetary and fiscal policy, and so on. Inflation generally makes it more difficult to obtain deliveries from the farmers, despite threats of punishment for non-compliance with official regulations, and special incentive payments in cash or kind. In general, the lower the official rations are, the greater is the incentive both to sell and to buy on the black market. In certain parts of eastern Europe and the Balkans supplies were so scarce that even sky-rocketing black-market prices could not bring forth substantial extra quantities of food. It is not possible to determine to what extent these different factors balance each other, for conditions differ from one country to another and from time to time. It would seem reasonable to assume, however, that in most countries actual rations tended to exceed the maximum permitted by the legal rations of the classes subject to rationing.

It is necessary to recall, moreover, that rationing relates, on the whole, to the non-agricultural population. Experience has shown that it is difficult, if not impossible, to ration farmers as strictly as non-farmers, and in most areas farmers are living on a nutritional level which, if not always satisfactory, is not much lower than it was before the war. Legal rations, therefore, are more representative of actual levels of national consumption in highly industrialized countries than in more agricultural countries.

During the war quality of food has, by official regulation or otherwise, been modified. Bread contains admixtures of barley, oats, potatoes, etc., and is made of flour of higher extraction than was usual before the war. In the case of meat the proportion of bone and waste has increased; cheese and milk contain less fat. In the rationing tables, however, one pound of bread or meat is necessarily considered as the equivalent of another pound of bread or meat, and for this reason the figures tend to understate the deterioration in diets which has actually taken place.

Finally, rations differ according to categories of consumers. During the last war most rationing was based on the principle of equality, but populations are now divided into categories by sex, age and occupation, and special regulations are often in force for the sick and the old, and for expectant and nursing mothers. In Sweden, for instance, official statistics show some 50 different consumer categories. The relative rations of different consumer categories, while generally adapted to physiological requirements, show considerable variation from country to country. As a first step, it is useful to consider rations of "normal consumers" who constitute the largest and most representative single consumer category. Such rations are shown in Table 1 for the period 1941 up to date.

While the rations in the table generally relate to January of each year, lack of information has in some cases necessitated the use of data pertaining to a somewhat earlier or later period; for some coun-

tries it has even been necessary to piece together information pertaining to different rationing periods. While the information is thus in some cases approximate and subject to revision, it is believed to give a fairly accurate picture of conditions as a whole.

It is convenient to consider countries under the following groups: (a) Germany and German-dominated Europe; (b) the U.S.S.R.; (c) the United Kingdom and the European neutrals; (d) the rest of the world.

A. Germany and German-occupied Europe
Rations of Normal Consumers

In order to express rations of various foods in a single unit of measurement, it is a common practice to convert them into calories. These are a convenient yardstick, but they do not reflect the nutritional value of the diet except as a source of energy.[1]

The effects of rationing on national diets differ according to whether the rationing is total or partial. If all the staple foods (which normally account for 95% or more of the calories in the diet) are rationed, the average consumer cannot legally obtain any substantial addition to his ration, and the rationing determines in practice the total amount of calories in the diet. On the other hand, if one or more of the staple foods (bread, potatoes, or milk) are free, rationing influences the composition of the diet, but leaves it to the individual consumer to determine how large his total intake of calories shall be. Hence, for purposes of comparison, a distinction should be made between countries where rationing is total and countries where one or more of the important staple foods are free.

Diagram 1a shows the composition and calorie value of legal rations in those countries where total rationing was in force in the summer of 1944. Normal consumers were entitled to about 2000 calories a day in Germany, and between 1500 and about 1800 calories in Bulgaria, the Protectorate of Bohemia and Moravia, Finland, the Netherlands, and Belgium. Rations were between about 1000 and 1500 calories in Norway, the Baltic States, Slovakia, Poland, France and Italy.

Diagram 1b shows rations in countries where rationing was partial. In Roumania rationing was not rigidly applied outside Bucharest, and rations of fats and cereals were ample. It is reported also that during some periods most commodities were free. In Denmark, milk and potatoes were free and meat was only locally rationed, and in Hungary—also a preponderantly agricultural country—there were no signs of any over-all calorie deficiency. The situation in Serbia and Croatia were different: rations were low and the supply of unrationed

[1] For a discussion of this method of measurement see *Food Rationing and Supply, 1943/44*, page 20.

Table 1

Food Rations of Normal Consumer[a] about January of each Year 1941-1944

(Grammes per week[b] 1 ounce = 28.4 grammes)

Explanation: *r: rationed; l.r.: locally rationed; p.r.: point rationing; blank: no information.*

Country	Year	Bread[c] and Flour	Cereals[d]	Potatoes	Sugar	Jam, Honey, etc.	Meat[e] Meat Prod.	Fats[f]	Liquid Milk (whole)	Cheese	Eggs	Coffee[g] & Tea
Canada	1941	Free	Free	Free	Free	Free	Free	Free	Free	Free	Free	
	1942	Free	Free	Free	Free	Free	Free	Free	Free	Free	Free	
	1943	Free	Free	Free	225	Free	Free	150	Free	Free	Free	115
	1944	Free	Free	Free	225	115	455-1135	170	Free	Free	Free	150
United States	1941	Free	Free	Free	Free	Free	Free	Free	Free	Free	Free	
	1942	Free	Free	Free	Free	Free	Free	Free	Free	Free	Free	
	1943	Free	Free	Free	225	p.r.	p.r.	p.r.	Free	Free	Free	150
	1944	Free	Free	Free	225	p.r.	p.r.	p.r.	Free	p.r.	Free	Free
United Kingdom	1941	Free	Free	Free	225	Free	1/10	225	Free			55
	1942	Free	Free	Free	225	55	1/2	225	r	55	1/2-2/3	55
	1943	Free	Free	Free	225	115	1/2	225	r	85		55
	1944	Free	Free	Free	225	115	1/2	225	r	55		55
Italy	1941	Free	470-570		140			100				nil
	1942	1050	470-570	250	115		100-200	100	l.r.	60	1	nil
	1943	1050	500-625	500	125		100-150	100	l.r.	100	l.r.	nil
	1944	1400	500	250	125		30-80	75	l.r.	100	l.r.	nil
	Summer 1944	1400	750	250	125		30-80	35	l.r.	100	l.r.	nil
Germany	1941	2250	150	Free	225	175	500	270	nil	50	r	100[g]
	1942	2000	150	r	225	175	300	205	nil	50	r	80
	1943	2250	150	4500	225	175	350	205	nil	60	r	60
	1944	2425	150	3500	225	175	250	185	nil	60	r	60
	Summer 1944	2425	150	l.r.	225	175	250	235	nil	60	1	60
Belgium	1941	1570	45	3500	225	105	245	105	nil		nil	90[g]
	1942	1570	45	3500	225	120	245	105	nil		nil	30
	1943	1570	60	3500	225	105	210	70	nil		nil	10
	1944	2100	60	3500	225	140	140	105	nil	50	nil	20
	Summer 1944	1750		2100	225	140	140	95	nil	25	nil	20
Bulgaria	1941	Free	Free				Free	200		200		
	1942	2100	250				200	200		100		
	1943	2100	100		250		400	250		100		5
	1944	3865	100		375		400	200	nil	75		5
	Summer 1944	3515	50	Free	125		400	200	free	50		5
Czechoslovakia (Protectorate)	1941	1900	150	Free	300		500	155	nil			r
	1942	2240	150	2000	250	205	300	160	nil			125[g]
	1943	2250	150	4000	300	205	350	165	nil			75
	1944	2425	150	2500	250	205	250	175	nil			75
	Summer 1944	2425	150	2500	250	205	250	175	nil			75
Czechoslovakia Slovakia	1941			Free								
	1942	1540		Free	235		300	150			Free	10
	1943	1545		3000	175-230		400	60	700		3	10
	1944	1670		3000	175-230		200	60	700		1	10
	Summer 1944	1540		3000	175-230		200	60	700	Free	1	

Table 1 (Continued)

Food Rations of Normal Consumer[a] about January of each Year 1941-1944

(Grammes per week[b] 1 ounce = 28.4 grammes)

Explanation: *r: rationed; l.r.: locally rationed; p.r.: point rationing; blank: no information.*

Country	*Year*	*Bread[c] and Flour*	*Cereals[d]*	*Potatoes*	*Sugar*	*Jam, Honey, etc.*	*Meat[e] Meat Prod.*	*Fats[f]*	*Liquid Milk (whole)*	*Cheese*	*Eggs*	*Coffee[g] & Tea*
Denmark	1941	2280	235	Free	465		Free	350	Free	Free	Free	30
	1942	2280	235	Free	465		Free	315	Free	Free	Free	30
	1943	2320	250	Free	375		Free	300	Free	Free	Free	nil
	1944	2350	310	Free	300		l.r.	300	Free	Free	Free	nil
	Summer 1944	2350	310	Free	350	Free	l.r.	300	Free	Free	Free	nil
Finland	1941	2275			175	nil	5.58 F.Mks.	175	2160			35
	1942	1810		l.r.	250	120	1.40 F.Mks.	70	700			60[g]
	1943	2275	60	2500	175	120	1.86 F.Mks.	125	1400			60
	1944	2275	60	3750	120	120	4.19 F.Mks.	125	2100			60
	Summer 1944	2275	40	3750	120	120	2.7 F.Mks.	125	2100			60
France	1941	2350	135	l.r.	115	r	360	100	nil	50		60[g]
	1942	1925	60	l.r.	115	60	180	100	nil	50		60
	1943	1925	60	l.r.	115	60	160	70	nil	50	l.r.	35
	1944	2100	55	l.r.	115	60	120	70	nil	50	l.r.	35
	Summer 1944	2100		l.r.	125	l.r.	l.r.	35	nil	50	l.r.	35
Hungary	1941				70-230							
	1942	2350		l.r.	80-240			140	nil	Free		
	1943	1605		l.r.	80-260		l.r.	140	nil	Free	r.	l.r.
	1944	2660		l.r.	80-260		l.r.	140	nil	Free	r.	l.r.
	Summer 1944	2400		l.r.	80-260		l.r.	140	nil	Free	r.	l.r.
Baltic States	1941											
	1942	1700	150		150	l.r.	250	180	nil	l.r.	l.r.	80[g]
	1943	1700	150	2000	150	l.r.	250	180	nil	l.r.	l.r.	80
	1944	2000	150	2000	150	l.r.	250	180	nil	l.r.	l.r.	80
Netherlands	1941	2360	150		280		320	250	1750	100	r	40
	1942	1800	160	3500	250	125	175	200	nil	125	r	60[g]
	1943	1890	150	4000	250	125	200	145	nil	75	r	60
	1944	1890	150	3000	250	125	125	145	nil	50	r	30
	Summer 1944	1890	150	3000	250	125	125	145	nil	50	r	40
Norway	1941	2080			200		Free	315	Free	Free	Free	40
	1942	1645	100	2800	200		l.r.	150	nil	95	nil	
	1943	1820	40	3000	200		l.r.	210	nil	50	nil	40
	1944	1820	60	3000	200	70	l.r.	210	nil	45	nil	nil
	Summer 1944	1820	35	3000	200		l.r.	210	nil	20	nil	nil
Poland	1941	1750	r	r	125		70-250	60	r	nil		60[g]
	1942	1750	r	2500	100		130	30	nil	nil		45
	1943	2095	r	r	70		95	nil	nil	nil	nil	30
	1944	2250	50	2000	75	125	100	nil	nil	nil	nil	60
	Summer 1944	2100	50	2000	75	125	100	nil	nil	nil	nil	30
Roumania	1941								Free	Free	Free	
	1942	1500	600	Free	185	Free	250	350	Free	Free	Free	
	1943	1750	1000	Free	150	Free	500	125	Free	Free	Free	
	1944	2100	1200	Free	250	Free	500	375	Free	Free	Free	
	Summer 1944	2100		Free	300	Free	500	195	Free	Free	Free	

Table 1 (Continued)

Food Rations of Normal Consumer[a] about January of each Year 1941-1944

(Grammes per week[b] 1 ounce = 28.4 grammes)

Explanation: *r: rationed; l.r.: locally rationed; p.r.: point rationing; blank: no information.*

Country	*Year*	*Bread[c] and Flour*	*Cereals[d]*	*Potatoes*	*Sugar*	*Jam, Honey, etc.*	*Meat[e] Meat Prod.*	*Fats[f]*	*Liquid Milk (whole)*	*Cheese*	*Eggs*	*Coffee[g] & Tea*
Yugoslavia	1941											
Croatia	1942	1400	70		125		300	125				
	1943	1050	115	2100	75		150	100	nil	100	1	
	1944	1375	115	2000	75		250	110	nil	100	1	
	Summer 1944	1375	115	1500	75		250	60	nil	100	1	
Yugoslavia	1941											
Serbia	1942	1800			75		200					
	1943	1850			150		125	205				
	1944	2000			125		100	245				
	Summer 1944	2000			75		100	245				
Ireland	1941	Free										
	1942	Free	Free	Free	340	Free	Free	Free	Free	Free	Free	15
	1943		Free	Free	340	Free	Free	225	Free	Free	Free	30
	1944	Free	Free	Free	340	Free	Free	170	Free	Free	Free	20
Spain	1941	560-1225					25	250	Free	Free	Free	r
	1942	560-1050	r	r	250		r	200	Free	Free	Free	r
	1943	630-1400	35-60	1000	45			r	Free	Free	Free	r
	1944	1050-1750	r	r	45			r	Free	Free	Free	r
Sweden	1941	1845	30	Free	500	r	Free	235	Free	55	Free	85
	1942	1515	150	Free	430	r	400	250	Free	30	1½	20
	1943	1515	330	Free	465	r	230	250	Free	30	½	30
	1944	1625	430	Free	465	r	400	320	Free	65	½	55
	Summer 1944	1625	185	Free	390	r	400	310	Free	65	2½	30
Switzerland	1941	Free	465	Free	235		Free	245	Free	Free	Free	
	1942	Free	290	Free	140		465	190	Free	150	3/4	75
	1943	1700	350	Free	115	165	390	200	3255	115	1/2	115
	1944	1755	400	Free	115	115	335	130	2905	70	1/2	140

Note: Several countries not given in the table above ration one or more commodities (in grammes per week): *Bread*: Tunis (3500); Turkey (3150); Portugal (3500); *Rice*: Japan (2310); *Sugar*: Australia (455); New Zealand (340); Japan (170); *Meat*: Australia (680-1815); *Fats*: Australia (225); *Tea*: Australia (55); New Zealand (55); Newfoundland, persons over 10 yrs. (55), under 10 yrs. (15).

Local Rationing: A partial list of locally rationed commodities not mentioned in the table above is as follows:

Fruit and Vegetables: Germany, Protectorate, Italy, Norway, Belgium, France, Finland.

Fish: Germany, Protectorate, Italy, Norway, Belgium, France, Finland.

Poultry: Belgium, France.

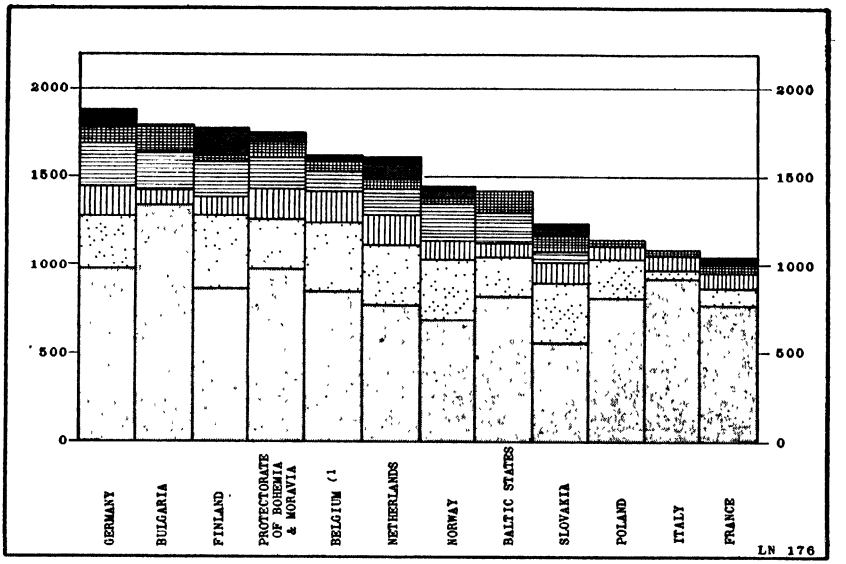
a. In United States and Canada all consumers.
b. Weekly rations: calculated on basis of 4.3 weeks per month.
c. 100 grammes of flour—130 grammes of soft bread.
d. Generally including dried beans and peas.
e. Meat: as purchased including bone and waste, unless otherwise indicated.
f. Fats: all fats including butter, margarine, lard and vegetable oil.
g. Substitute or mixture.

For further details see:
Food Rationing and Supply, 1943/44, pp. 16-18.
Wartime Rationing and Consumption, 1942, pp. 24-26.

Diagram 1

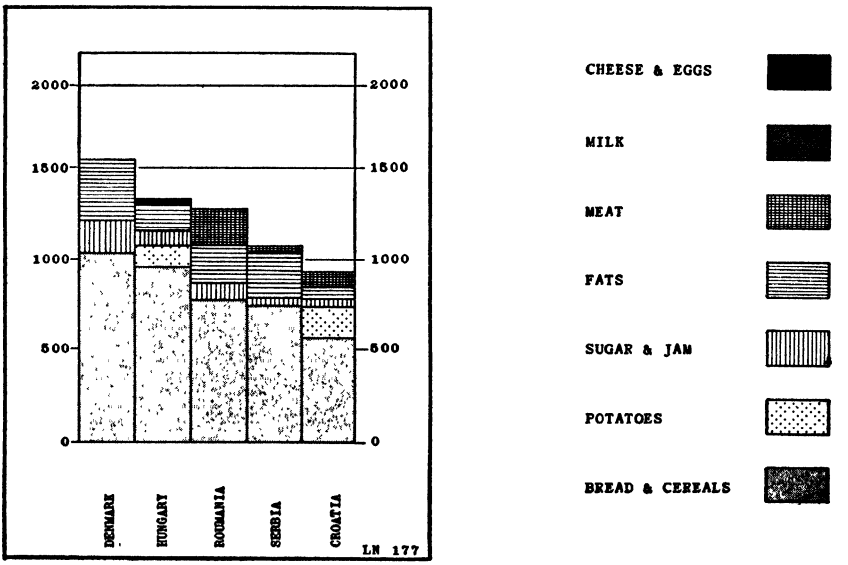
Rations in Calories of "Normal Consumers" in the Summer of 1944

A. Countries with Total Rationing
(95% or more of pre-war consumption)



[1] Figures used are for the spring of 1944. August food rations showed a total reduction of about 385 calories.

B. Countries with Partial Rationing



food to the non-agricultural population is understood to have been very restricted. In parts of Yugoslavia the situation seems to have been as serious as anywhere in Europe.

Owing to changes in rationing, and the inclusion or exclusion of commodities in the rationing system, it is exceedingly difficult to calculate comparable figures of calorie-rations over a period of years. One of the chief difficulties relates to potatoes, which were generally free during the first years of war and only gradually came under rationing later. In the table below, showing the calorie values of the rations of normal consumers since 1941, the figures in parentheses indicate the calorie content of the foodstuffs that were rationed in the respective years plus the calorie value of the 1944 rations of the foods that were rationed later. Naturally, these values are only approximate, for consumption is likely to have been somewhat higher before the commodity in question was rationed, and actual consumption is likely to have been higher than the figures indicate.

Table 2

Calorie Value of Normal Consumers' Rations about January of each Year 1941-1944

Country	*1941*	*1942*	*1943*	*1944*
Germany	(1990)[1]	(1750)[1]	1980	1930
Italy	(1010)[2]	950	990	1065[3]
Belgium	1360	1365	1320	1555
Czechoslovakia: Protectorate of Bohemia and Moravia	(1690)[4]	1785	1920	1740
Finland	(1940)[5]	(1495)[5]	1630	1780
France	(1365)[6]	(1115)[6]	1080[6]	1115
Baltic States	.	(1305)[7]	1305	1420
Netherlands	(2050)[8]	1825	1765	1580
Norway	(1620)[9]	1385	1430	1480
Poland: Government General	845	1070	855	1200

[1] Including 400 calories of potatoes.
[2] Including 390 calories bread, 55 potatoes and 45 cheese.
[3] Northern Italy.
[4] Including 165 calories milk and 230 potatoes (1942 ration).
[5] Including 430 calories potatoes.
[6] Including 100 calories potatoes.
[7] Including 230 calories potatoes.
[8] Including 340 calories potatoes.
[9] Including 340 calories potatoes, 20 calories cheese and 40 calories milk.

Except during 1942[1] the total calorie value of German consumption has been kept fairly constant at about, or slightly below, 2000 calories a day—a level which may be considered as quantitatively satisfactory. A slight increase was registered in 1944 for northern Italy. It was largely due to the fact that this part is the chief grain producing area

[1] Actual consumption in that year is likely to have been somewhat higher than is indicated by the figure in Table 2.

of Italy, and that, after the occupation of southern Italy, surpluses became available for local distribution. In Belgium rations remained almost constant at between 1300 and 1400 calories a day, but were increased in 1944 to over 1500 calories. Even the Polish rations, although they were still low, showed a considerable percentage increase in 1944. On the other hand, rations in the ordinarily "high consumption" countries such as France, the Netherlands, the Protectorate of Bohemia and Moravia, and Norway, remained almost stationary or even decreased. To a certain extent, however, it may be assumed that the decreases in legal rations were compensated for by a more active trade in the "black market."

There is no way of making similar estimates for countries where rationing was only partial. Except in areas like parts of the Balkans, where the scarcities were so great as to prevent regular rationing, the total calorie rations can be assumed to have been maintained more or less at peace-time levels. This seems to have been the case in Denmark, Hungary and Roumania.

Rations of Different Consumer Categories

As was mentioned above, rations have tended to become more and more differentiated, for, as the scope of rationing is expanded, the individual has less freedom of choice, and special provisions have to be made to meet special needs. Differentiation has been both quantitative and qualitative. Persons employed in work requiring great physical activity received larger quantities of energy-producing foods, while children, sick persons, nursing and expectant mothers receive larger quantities of quality foods such as milk, fruit juice and eggs.

Workers doing heavy work received extra rations of bread and flour, meat and fats. The following figures show the total calorie rations, as they were in the summer of 1944, for different categories of workers as a percentage of the normal consumers' rations:

	Italy	Germany	Belgium[1]	Protectorate	Denmark	Finland	France
Light Worker	119	119	118	121	...	123	...
Heavy Worker	148	141	135	146	129	143	120
Very Heavy Worker	183	181	153	188	150	155	129

	Hungary	Baltic States	Netherlands	Norway
Light Worker	...	123	...	...
Heavy Worker	136	149	139	156
Very Heavy Worker	175	198	176	191

[1] May 1944.

Children's energy requirements are lower than those of adults; just how much lower has been variously estimated. In *Food Rationing and Supply, 1943/44*[1] children's rations were calculated on the basis

[1] League of Nations, 1944.

of the scale of energy requirements laid down by the Health Organization of the League of Nations. It appears that the ratio between requirements and rations was everywhere high for the lowest age-group. Infants under one year had a ration of 264 in Germany and the ration was above 200 in all the countries except France, Italy and Poland; in the last mentioned country the ration was only 111 and it was probably even lower in parts of Yugoslavia and occupied Russia. The ratio between rations and needs declined uniformly with age until ultimately the rations fell below standard requirements; this critical level was reached first in countries where the general level of food consumption was low. In Germany children up to 10-12 years of age enjoyed a surplus; the corresponding age limit in the Baltic States was 9-10, in the Protectorate of Bohemia-Moravia, Finland, the Netherlands and Norway 8-9, in Belgium 7-8, in France 5-6, in Italy 2-3, in Poland 0-1. Maximum deficiencies occurred in the age-group 14-20. The rations of this group represented the following percentages of requirements (3000 calories a day) in the various countries: Germany 71, Finland 79, the Netherlands 66, Norway 65, Belgium 55, France 49, the Baltic States 64 and Italy 42.

Children's rations were not only more generous in quantity as compared with requirements than those of adult and above all adolescent normal consumers, but they contained more of the protective foods. The main addition to children's diets was milk which was reserved in most countries for children, nursing and expectant mothers. Table 3 below shows children's milk rations in continental Europe as they were in the summer of 1944.

By way of comparison it may be mentioned that the British milk ration was 570 grammes a day for children under six, and half that quantity for the age group 6-14 years. Over most of the Continent legal rations were as large or larger than this with the notable exceptions of the low-consumption areas in eastern Europe and the Balkans.

Family Consumption

In view of the different rations allotted to consumers of different categories, average consumption may diverge considerably from the level indicated by the rations of any special category. In order to give an approximate idea of average conditions it is of interest to calculate for the various countries the consumption per family—which is the most common consuming unit in practice.

In peace-time most countries compute cost of living indices which represent changes in the cost of living of a "typical" working class family. The "basket" of foods, and other goods priced in the computation of these indices is obtained by means of family budget enquiries. In order to link up ration figures with peace-time statistics of consumption, it is necessary to use a unit of comparison as nearly as

Table 3

Milk Rations for Children in Certain Countries in the Summer of 1944. (Grammes per diem)

	Under 3 yrs.	3-6 yrs.	6-10 yrs.	10-14 yrs.
Germany	750	500	250	250
Belgium	750	500	250	250
Bulgaria	500[1]	500[2]	...	...
Czechoslovakia (The Protectorate)	500	500	250	250
Slovakia	750[1]	500[2]	500	500
Finland	600[2]-1000[1]	600	600	600
France	750	750	250	250
Hungary	750	500	500	500
Baltic States	750	500	250	250
Netherlands	750	500	500	500
Norway	750[1]	750[2]	500[3]	250[4]
Yugoslavia (Croatia)	500[1]	500[2]	...	...

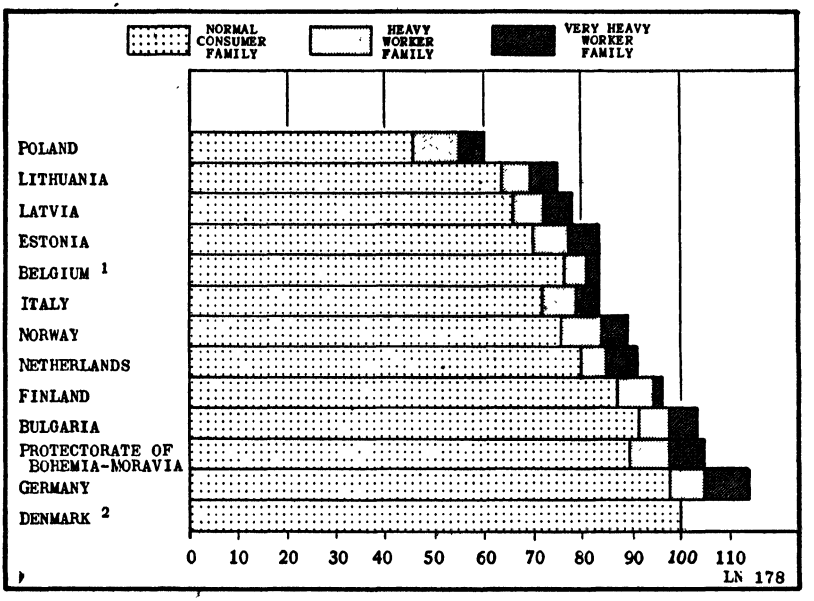
Bulgaria: [1] Children under 1 year.
[2] Children 1-2 years
Slovakia: [1] Children under 1 year.
[2] Children 1-6 years.
Finland: [1] Children under 1 year.
[2] Children 1-3 years.
Norway: [1] Children 0-2 years.
[2] Children 2-5 years.
[3] Children 5-12 years.
[4] Persons 12-20 years.
Yugoslavia: [1] Children 0-2 years.
[2] Children 2-5 years.

possible identical to the "typical" family of the budget enquiries, A typical family in this sense (which is not necessarily an average family) is composed of husband, wife and two or three children. The standard family used here is composed of husband, wife and three children, aged three, six and nine. In order to make the figures comparable with standards of physiological requirements as well as with pre-war consumption figures, family consumption figures are given per consumption unit (adult male), calculated according to the League of Nations scale. The typical or standard family thus contains 3.32 adult male units.

Diagram 2 shows the rations in the summer of 1944 as a percentage of pre-war working-class consumption as revealed by family budget studies. According to this necessarily approximate estimate, rations ranged from less than half the pre-war consumption in Poland to almost the normal level in Bulgaria and Denmark. The rations of heavy and very heavy workers' families were higher, and as the pre-war levels were quite different in the various countries, it is more useful to compare rations with a uniform rate of physiological requirements. Diagram 3 shows rations as a percentage of the normal requirements of 3000 calories a day per consumption unit.

Diagram 2

Workers' Diets in the Summer of 1944 as percentage of Pre-War Consumption. (Calories per consumption unit per diem)



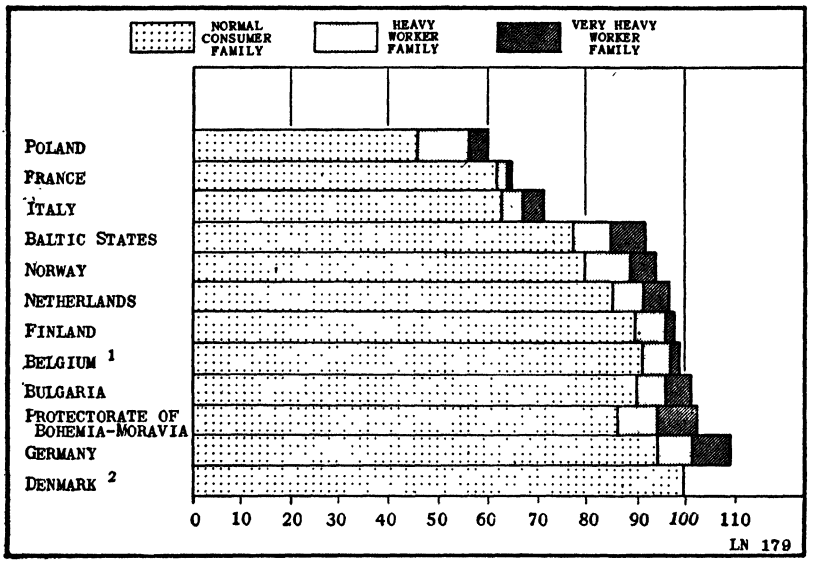
[1] Spring 1944.
[2] 3,000 calories or more.

In Poland official rations represented about half of requirements. These rations may actually have been available to Poles in the incorporated provinces (Germans received the German rations), but conditions in the "Government General" do not permit of easy generalization. Rations (except possibly of bread) were not generally available; and the German authorities found it necessary to feed workers in armament factories by means of special canteens. The insufficiency and irregularity of rationing obliged the population to resort to the black market. Prices, however, soared and were out of proportion to the general level of wages. It is reported that the typical working-class income was between 150 and 350 zloties a month, and that a litre of milk in the black market cost 24 zloties, an egg 12 zloties and a simple meal in a popular restaurant 60 zloties. The rations of Jews used to be half of those of the Poles, but after the extermination of the Jews was apparently regarded as completed, no special cards for Jews were issued. It should be remembered, however, that Poland is a predominantly agricultural country, and that in spite of drastic measures of

Diagram 3

Workers' Diets in the Summer of 1944 as a percentage of Normal Requirements (3000 calories)

(Calories per consumption unit per diem)



[1] Spring 1944.
[2] 3,000 calories or more.

requisitioning, quotas, etc., the diet of farmers was not reduced in a degree corresponding to that of the city population.

It is hardly possible to evaluate statistically the level of consumption in Greece. In September 1942 a relief plan came into force under which the Allied Governments consented to lend food to occupied Greece under the supervision of a commission composed of representatives of the International and Swedish Red Cross. The famine conditions prevailing in the winter of 1941/42 were relieved by the distribution of wheat, pulses and certain other foods. The amount of relief wheat was 24,000 tons a month, and of pulses, dried milk, rice, fish, sugar, soup, spaghetti, etc. 7,200 tons a month. The situation, though critical, would not appear to have been worse than in certain other occupied areas. Information is almost completely lacking for formerly occupied Russia and Serbia, but conditions are likely to have been critical.

In France and northern Italy rations probably represented some 60% of normal requirements; it should be remembered, however, that the black market supplied certain additions to the legal rations for

persons able to afford the ruling prices; those who were worst off were the lower income groups in the big towns, for they could not, of course, afford to use the black markets to any significant extent. In the Baltic countries, Norway and the Netherlands, rations represented between 75 and 85% of requirements, although rations were not always available. In the rest of the countries on the European Continent calorie rations reached 90% or more of requirements for normal consumers and there seem to have been no general or critical calorie deficiencies in so far as rations were actually obtainable in the shops. In Germany and Denmark, available rations may even have added up to a little more than normal requirements. As was pointed out above, however, such general averages do not preclude the existence of quite serious deficiencies in particular groups or areas.

Although the first question which presents itself in the analysis of war-time diets naturally concerns their adequacy in respect of calories, it is essential to consider also their nutritional composition. It is useful first to consider the fundamental relationship between vegetable and animal food.

The Animal-Vegetable Ratio

The great staple foods—bread, potatoes and also sugar which, though nutritionally less valuable than cereals and potatoes, may for the sake of convenience be included with the starch group—are of vegetable origin. They are the cheapest source of calories as well as of many proteins, vitamins and mineral salts. In the poor countries of eastern Asia diets are almost exclusively composed of vegetable foods; as we proceed towards the richer countries the proportion of animal calories in the total increases, and in the United States and some countries of northwestern Europe it reaches as much as 40% on the average.[1] Hence the richer countries could in case of need divert part of their primary crops to human consumption by decreasing animal production; and a further reserve is constituted by the livestock itself. In countries with low animal production, crop failures result in a direct decrease in the supply of human food, and if additional imports fail to come forth, in famine.

According to estimates made by J. H. Richter,[2] the Continent of Europe produced, before the war, roughly 90% of its calorie food

[1] Suppose that the diet in each of two countries A and B contains 3000 calories a day, but that in A it is composed of vegetable calories only, and in B of 60% vegetable and 40% animal calories. Then, if it requires on an average 7 vegetable calories to produce one animal calorie (as was apparently true in Europe before the war), the number of primary calories in A is 3000 and in B 10,200 (1800/1200×7). In other words, the basic crop production has to be about three times as large in country B as in country A, in order to permit the inclusion of 40% animal food in the human diet.

[2] "Continental Europe's Pre-War Food Balance," U.S. Department of Agriculture, *Foreign Agriculture*, August 1942.

requirements; 78% of these requirements were met by calories of vegetable origin and 22% by calories of animal origin. These averages cover large differences between countries: in Germany the ratio was about 2 to 1, and in Scandinavia it was about 3 to 2. The total yearly supply of primary calories amounted to 995,000,000 millions (of which 10% were imported either directly or indirectly in the form of animal products); of this total 230,000,000 millions were taken up by draft animals, seed, losses and waste; 270,000,000 millions were consumed by human beings in vegetable form, and the rest (495,000,000 millions) were used to produce 75,500,000 million animal calories for human consumption.

The first effect of the war was to cut off imports, thus decreasing the supply of primary calories by some 10%. Stocks of cereals existing at the outbreak of the war cushioned for some time the effects of this decrease, but later the Continent came to depend on its own current production. Taken by itself, however, this loss is less serious than is generally realized. On the assumption that 7 feed calories are required to produce 1 calorie of animal products for human consumption, an increase of the vegetable ratio in human consumption from 78% to 84% would have secured "self-sufficiency" at the old calorie level. In fact, the necessary change in the ratio could have been made even smaller if there had been an increase in the relative production of milk, and a decrease in that of eggs, beef and other calorie-intensive products.

Domestic crop production, however, has decreased, and the shift towards a vegetarian diet has had to be much more radical than the figures given above would indicate. Diagram 4 below shows the ratio of vegetable calories in the diet of a typical working-class family before the war, and in the rations of a typical family in 1944.[1]

The increase of the vegetable portion in the diet was almost universal, although uneven. In Germany the ratio in the summer of 1944 corresponded roughly to the pre-war ratio for the Continent as a whole, and the total was adequate in calories. In the occupied areas, the total number of calories allowed for human consumption was smaller and the proportion of vegetable calories was higher.

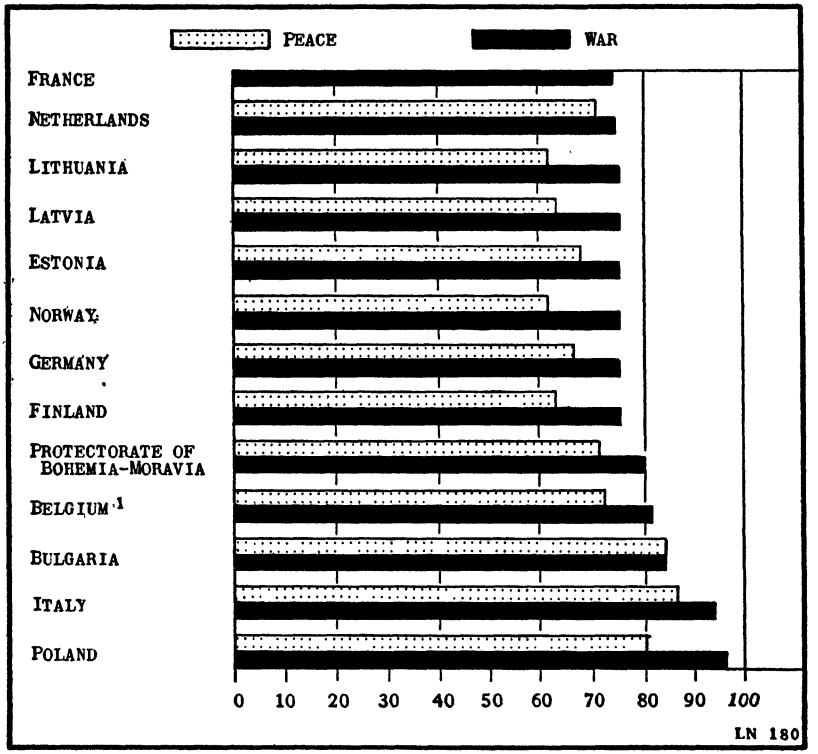
Composition of Diets

The cheapest and most abundant source of energy is represented by the carbohydrates. The lower the diet, the greater is the proportion of carbohydrates, and although, as may be seen above, the number of calories in the diet was short in many countries, there was in no case

[1] For the purpose of these calculations it was necessary to make certain simplifying assumptions. Vegetable foods are taken to include: bread, cereals, potatoes, sugar and half the fat ration; animal foods include: meat, milk, cheese, eggs and half the fat ration. The exclusion of fruits and vegetables does not, in view of their low calorie content, materially affect the results.

Diagram 4

Percentage of Vegetable Calories in the Diet of a Pre-War Working-Class Family and of a Typical Family in the Summer of 1944.



[1] Spring 1944.

a relative lack of carbohydrates. Together with the latter, fat is the main energy-giving constituent in the diet. Although it is impossible to lay down either the relative or the absolute amounts of fat needed, when fat consumption decreases much below the usual levels (400-700 calories a day), morale and efficiency are adversely affected and a general feeling of hidden hunger is produced.

Fat, purchased as such, however, represents only a part of total fat consumption—much is consumed in the form of milk, cheese, cream, meat, bacon, nuts, etc. Most of these indirect sources of fat have been rationed, and their fat content reduced, and the figures for rations of fat "purchased as such" understate the actual decrease in consumption.

The highest wartime consumption was to be found in Denmark,

Germany, Norway and Bulgaria, with rations of "fat purchased as such" of about 300 or more calories a day. Rations consisted of between 230 and 300 in the Netherlands, Finland, the Protectorate and the Baltic States. Though these rations were below peace-time levels, there is no direct evidence that they were physiologically insufficient, though they were, no doubt, below the comfort level. Rations in Italy, France and Belgium were between 80 and 165 calories, and were so low that they must have given rise to very considerable discomfort. Indeed, it was reported from many of the occupied areas that the lack of fat was more keenly felt than any other single food shortage.

The question of the body-building proteins is complicated by several circumstances. According to generally accepted standards, an adult male needs about 10% of his total calorie consumption in the form of proteins for optimum health, while actually demonstrated need is about 5%. Moreover, a part of the proteins should be of animal origin.

Cereals, peas, beans and nuts are good sources of protein, particularly in combination with milk, and as a general rule, when rations of whole bread are adequate, the minimum need for total proteins is also met. There seems to be no evidence that there was any lack of proteins as a whole in Germany, the Protectorate, Bulgaria, Hungary, Roumania, the Netherlands and Norway. In other cases protein deficiency was due to an over-all calorie deficiency and could have been remedied only by an increase in rations in general.

The question of the proportion of animal proteins needed is even more difficult. Given an adequate milk supply, it is possible to compose diets of whole bread, fruits and vegetables that meet all known nutritional requirements. On the whole it is remarkable how well milk consumption has been maintained (and in some cases increased). The consumption of meat and eggs has been drastically cut, and a larger proportion of animal proteins is now obtained from milk. While the available figures do not permit us to draw general or hard and fast conclusions, they suggest that except in the very low consumption areas the diet contained sufficient milk to permit the healthy growth of children, so long as rations were available and were not greatly deficient in calories.

The position with respect to vitamins and minerals was probably less critical than is generally assumed, and such deficiencies as existed were connected more with the insufficiency of the diet as a whole, than with its composition. In fact, where the total calorie level was fairly adequate and the consumption of milk was maintained, it seems that the situation was in many cases less unsatisfactory than before the war. The consumption of vegetables and potatoes as well as the milling percentage of cereals increased. Hence, phosphorus—of which whole bread is a rich source—was not usually scarce where bread ra-

tions were sufficient. Calcium is supplied by milk, cheese and green vegetables. Iron is found in a great number of foods, and there is therefore little danger of a deficiency. The vitamin C supply was, in countries where total rations were not clearly insufficient, probably as abundant as, or in some cases more abundant than, before the war, because of the increased consumption of potatoes and green vegetables. In northern countries, like Norway, however, the scarcity of vegetables, particularly in winter, is reported to have caused serious deficiencies. The same probably holds true of the low-consumption areas, and of some of the towns, not only in Poland, but also in Belgium, the Netherlands and France. To some extent such shortages were counteracted by the distribution of ascorbic acid to children.

Vitamins of the B complex are common in many animal and vegetable foods; and whole bread and cereals, beans and peas are relatively rich sources. The increased use of whole bread should have increased the intake of these vitamins, and where the diet was adequate in calories the situation was probably not worse, at any rate, than before the war. Vitamin A and its precursors are contained in milk, butter, eggs and fish-liver oil and also in green and yellow vegetables. In countries where vegetable consumption has been maintained or increased, as in Germany, and where milk consumption was fairly adequate, there is little reason to assume that deficiencies were greater than before the war. Vitamin D, contained in milk and fish-liver oil, is also formed in the body under the influence of the ultraviolet rays in sunshine. In countries where the diet is low in calories, or where there are long, sunless winters, a D deficiency is likely to have occurred, particularly in the urban centers. Margarine, however, is generally fortified with vitamins A and D, and in Germany vitamin D was supplied free to infants.

Summary of Conclusions

Farmers are as a class little affected by rationing, and the situation was critical chiefly in the urban districts. Here the average level of consumption depended on (a) the size of the official ration; (b) the extent to which rations were made available in the shops; (c) the purchasing power of wages; and (d) additions from the black market. Except for (a) no numerical estimates are possible, but on the basis of the official rations it is possible to reach some broad conclusions as to the relative position of various countries.

The theoretical calorie intake seems on the whole to have been maintained at pre-war levels in Denmark, Germany, Bulgaria, Roumania and Hungary; in most cases the level did not fall much below the standard of 3000 calories per consumption unit (adult male) a day. In the Protectorate of Bohemia-Moravia, and in Belgium, Finland, the Netherlands and Norway, rations apparently represented some

2500 to 2800 calories a day per adult male. While they were lower than before the war, and below accepted standards of requirements, the official rations were not critically short in calories, though more or less severe shortages occurred among special groups. In the Baltic States, Slovakia, France and Italy rations represented between 2400 and 1500 calories. These averages were too low to permit of full working efficiency and health. In Poland, Greece and parts of Yugoslavia, levels of consumption were so low that many people, particularly in the towns, must have lived in a state of semi-starvation.

The absence of statistically measurable starvation does not imply, however, that the diet is adequate to maintain health and efficiency, even if in wartime the immediate problem of calorie deficiency tends to overshadow the problem of adequacy in other respects. In the first group of countries, the war diet contained more vegetable foods than before the war, but since milk consumption was fairly well maintained, this change does not necessarily mean that the quality of the diet deteriorated. Thus, the German diet contained less meat products, and certainly much less than is consistent with a varied and palatable diet; it contained also less fat. These shortages constitute a serious social problem, but there seems no reason to believe that the diet was necessarily poorer in essential vitamins and minerals than before the war. In the second group of countries the composition of the diet was not significantly different from that in Germany. Owing, however, to the lower calorie intake (and less regular distribution of rations) deficiencies in particular elements in the diet were likely to be aggravated. In the third group the qualitative problem was increasingly overshadowed by the quantitative. Even if the *proportion* in the diet of the various nutritive elements was satisfactory on paper, absolute scarcities occurred in practically all the important elements. In the fourth and lowest consumption group the diet was deficient in almost all respects. Until calorie requirements are again more fully met, the question of the composition of the diet will be of relatively minor importance.

B. The U.S.S.R.

Comparable statistics are not available for the U.S.S.R. Rationing covers all staple foods, and rations are sold at fixed maximum prices, but a legal open market exists in which consumers who are able to pay the very high prices may supplement their rations. According to a recent estimate, the average Russian diet based on rationed and free foods adds up to the following quantities per head per week:[1]

[1] *Cf. Food Rationing and Supply, 1943/44* (League of Nations, 1944), page 21.

	Grammes per week	*Calories per day*
Bread	3175	1180
Cereals	590	295
Meat	400	150
Potatoes	1050	120
Sugar	85	45
Vegetables	800	40
Cheese	Irregular	..
Total		1830

The calorie intake *per capita* would thus have amounted to about 1800 calories a day: it was higher for workers and lower for children and dependents. Qualitatively these rations were not seriously deficient, but they were poor in animal foods and fats.

C. The United Kingdom and the European Neutrals

The situation in these countries with the exception of Spain has been more favourable than in Germany and German-dominated Europe. The war has naturally brought about a tightening of supplies, but not so much as to render impossible more flexible systems of rationing.

The system in force in the United Kingdom was described in the last edition of this *Survey*, and the reader is referred to this publication for a detailed description.[1] In Britain there has never been rationing of the total calories consumed, for consumers have been free at all times to buy as much bread and potatoes as they wished. The basic individual rations (of sugar, meats, fats and cheese) have remained practically stable throughout the war and they have supplied the average family with the elements of a sound diet. Gradually, however, actual consumption was increased above this minimum by means of point rationing, communal feeding and special distribution schemes.

Point rationing is generally employed in the case of commodities the supply of which is too small or too erratic to permit of specific individual rationing. Tinned meat, fish and beans, for instance are under point rationing. Communal feeding in addition to individual rationing has also been greatly extended with the purpose of supplying the extra needs of workers and school children. Employers who employ 250 persons or more are required to operate industrial canteens, but even smaller employers can be required to set up canteens where circumstances make it desirable. School canteens have been greatly extended and aim at supplying all school children with one well-balanced meal a day. About one-third of the school children in England and about one-quarter of those in Scotland receive cheap or free school lunches. In addition, a great number of "British restaurants," which serve a hot, nutritious meal at about one shilling a head, have been established. They are open to the public, but priority is in many cases given to workers.

[1] *Cf.* also *Food Rationing and Supply, 1943/44*, pages 54-59.

Children of pre-school age, as well as nursing and pregnant mothers, do not generally benefit from the addition to rations supplied by the communal feeding schemes, and their extra needs are met through special schemes for the distribution of protective foods, such as milk, eggs and certain fruits and fruit juices. Children under one year of age have a priority right to two pints of milk a day, and nursing and expectant mothers and children 2-5 years of age to one pint a day, at 2 d. a pint, or free, if the parents' income falls below a stated minimum. Children of school age receive milk under the "milk-in-schools" scheme. Cheap "national" milk cocoa has been provided to meet the extra protein needs of post-school adolescents in factories and offices. In the United Kingdom it is not possible to estimate consumption per family as it is in countries where rationing is total. Figures are, however, available showing the food supply per head of the civilian population.[1]

Estimated Supplies Moving into Civilian Consumption in the United Kingdom

(In grammes per week)

	Pre-war	1943	Percentage change
Milk and milk-products (excluding butter)	334.1	429.2	+28
Meat	1189.8	936.0	—21
Poultry	266.9	164.0	—39
Eggs	212.8	199.8	— 6
Oils and fats	397.8	335.0	—16
Sugar, etc.	824.3	567.0	—31
Potatoes	1544.0	2231.3	+45
Pulses and nuts	82.9	48.8	—41
Tomatoes and citrus fruits	408.2	202.4	—50
Other fruits	815.6	453.6	—44
Vegetables	1290.1	1710.6	+34
Grain products	1840.6	2393.6	+19

The following figures (Hansard, August 3rd, 1944) give estimates of total national expenditure on food, at the retail level, by main food groups:

(£ million)

Commodity Group	1938	1943
Household expenditure:		
Bread and cereals, etc.	165	225
Meat, bacon, etc.	275	273
Fish, fresh and canned	43	35
Oils and fats	98	57
Sugar, preserves, confectionery	108	105
Dairy products	189	203
Fruit, fresh, canned and dried	79	35
Potatoes and vegetables	84	126
Beverages	54	46
Other manufactured foods	33	37
Meals outside the home	70	122
Total	1,198	1,264

[1] See, *Food Consumption Levels in the United States, Canada and the United*

The average consumption of potatoes, vegetables, milk and cereals has increased, while the consumption of sugar, animal products, fats and imported fruits has declined. The effect of these changes on the nutritive composition of the diet is shown in the table below.

Estimated Supply per Capita per Day of Nutrition available for Civilian Consumption in the United Kingdom

	Pre-war	1943	Percentage change
Calories	2984	2827	— 5
Proteins, animal grammes	43	40	— 7
Proteins, vegetable grammes	38	47	+23
Fats, grammes	130	113	—13
Carbohydrates, grammes	373	366	— 2
Calcium, milligrammes	694	1054	+52
Iron, milligrammes	13	16	+27
Vitamin A, International units	3868	3882	..
Vitamin C, milligrammes	112	127	+13
Thiamin, milligrammes	1.2	1.9	+60
Riboflavin, milligrammes	1.6	2.1	+30
Niacin, milligrammes	18	19	+ 3

It would appear from the table that calorie consumption has decreased by 5%. This decrease, however, is no doubt more apparent than real, for the entry into the armed forces of a large number of men in their best years necessarily decreased the average requirements of the remainder. The food supply of some 2800 calories per head a day, even allowing for a high proportion of waste in storage and distribution, is enough to bring consumption per consumption unit well above the 3000-a-day standard of normal requirements. There was a moderate decrease in fat and animal protein consumption, but the intake of minerals and vitamins increased throughout, owing mainly to the increased consumption of potatoes and vegetables and the increased milling extraction of cereals.

In general, therefore, the level of nutrition enjoyed by the civilian population has, on the average, been as good as, or better than, before the war. With the probable exception of vitamins A and C, the diet is adequate to meet intake requirements based on the full "recommended dietary allowances" of the National Research Council (United States), and it meets in all respects the Council's "average restricted dietary allowances." The chief shortcoming of the British wartime diet has been monotony and lack of palatability, rendering it, in many cases, difficult to maintain sufficient individual appetite; but the general improvement in public health, in spite of all wartime stresses, testifies to the success of the British food distribution system.

In Sweden unrationed cream, milk, potatoes and certain meats,

Kingdom, Report of a Special Joint Committee set up by the Combined Food Board, issued by United States Department of Agriculture and War Food Administration, April 1944.

permitted the population to satisfy their additional needs for calories in a nutritionally favourable manner. The ratio between animal and vegetable foods of roughly 40:60 has not been greatly modified, and, as a whole, the diet is quantitatively and qualitatively adequate.

The situation in Switzerland was somewhat tighter than in Sweden. Bread was rationed, but potatoes remained free. According to all indications, however, the diet was not seriously inadequate either in quantity or in quality. In some respects, such as content of vitamin C, it was even superior to the pre-war diet. Conditions in Ireland have not necessitated the rationing of more than a few imported foods. In Portugal the bad wheat crop of 1943 necessitated rationing of bread. The situation in Spain, though it has improved, is still one of scarcity. This is a result of the Civil War, rather than of the present war, and it makes itself felt in widespread malnutrition, and in some areas and among some classes, in semi-starvation.

D. Consumption in Other Parts of the World

The Americas, New Zealand and Australia have not been confronted with any general food shortage. The need for rationing has arisen, in spite of maintained or increased production, on account of fuller employment and higher earnings coupled with the demands of the armed forces and lend-lease. Rationing of individual foods such as sugar, meat and fats (bread, milk and vegetables are ration-free) does not compress ordinary food standards; the rations are mainly a means of rendering the general controls over production and prices more effective by limiting the demand for goods of which the consumption usually increases with a rise in income.

Conditions in the Middle East vary from country to country, and it has proved impractical to adopt a general system of rationing. In most of the countries, however, bread and cereals are rationed.

During the autumn of 1943 serious famine broke out in parts of India, particularly in Bengal. This was due not so much to any decrease in total supplies, as to a partial breakdown in distribution caused by inflation and hoarding. The Central Government of India reorganized procurement on a national basis and introduced rationing in the large towns. The crisis in distribution was overcome by the beginning of 1944.

Statistics for China are even more difficult to obtain. Conditions vary widely from place to place. Monetary inflation has adversely affected large sections of the population, particularly in the towns, where local starvation appears to be not uncommon. A disastrous harvest failure in Honan Province brought famine conditions to millions of people in that area in the autumn of 1943.

Rationing of the chief foods is enforced in Japan. In January 1944 it was reported that the following rice rations were in force:

	Grammes per week
Persons 1-5 years	120
6-10 years	230
11-60 years	330
60- years	300
Heavy workers, men	390
Heavy workers, women	350
Very heavy workers, men	570
Very heavy workers, women	420

In addition, all consumers received 360 grammes of sugar and 675 grammes of miso per month.

Rationing of Goods other than Food

Consumption goods other than food became increasingly scarce in most parts of the world during 1943 and 1944. The measures adopted for their distribution in different countries were described at some length in *Wartime Rationing and Consumption.*[1]

Rationing of clothes has been almost as generally enforced as that of food. Owing to the almost complete cessation of imports into Europe of textile fibres (cotton, wool, jute, etc.) and also hides, the output of the textile and shoe industries has been greatly reduced. Essential needs are met by the manufacture of clothes from artificial fibres, re-used wool, shoddy and rags. Wooden soles are frequently used for shoes, the uppers being made of substitute materials.[2] The warmth and durability of clothing have decreased, thus further accentuating the privations of the people, particularly of the poor who have used up their meagre stocks of pre-war clothing, or have been forced by "voluntary collections" to surrender part of them.

Owing to the relative durability of clothing and the large number of different items required by each consumer, the rationing of clothing, where it was adopted, usually took the form, at least in the beginning, of point rationing. Under this system each consumer received a number of "points" to cover a certain period of time (6-18 months), each article being priced in so many points. A certain elasticity and freedom of consumers' choice was thus maintained, while total demand was restricted. This system, however, can be maintained successfully only when governments are able to supply a relatively wide range of articles and to maintain a sufficient stock to meet inevitable variations in demand. On the Continent of Europe supplies have become so scarce that point rationing has broken down and has had to be supplemented by direct rationing according to

[1] *Wartime Rationing and Consumption*, League of Nations, 1942, Chapter III.
[2] In Germany, wooden or plastic soles have been used for a number of years. Uppers are now made of such materials as rabbit skin, straw or human hair. *Foreign Commerce Weekly*, July 10th, 1943.

"need." As early as 1942 the scope of clothes rationing was narrowed in Germany, and special purchasing permits were required in addition to points for the purchase of especially scarce goods, such as shoes and items containing a high proportion of wool, linen or cotton. This system was extended in 1943, and special permits are now required for the purchase of all major articles of clothing. Also, minor articles, haberdashery and headgear, which were formerly point free, have been brought under the rationing system. Purchasing permits, which are issued by the local rationing offices, are granted sparingly. Nobody is entitled to a permit for a suit if he has two "serviceable" suits, and a patched or old-fashioned suit is still considered serviceable. A permit for an overcoat can be obtained only on surrender of the old coat. It should be observed, however, that even if a person is in possession of less clothing than indicated, he still has no legal claim to a permit. Children under 16, however, were allowed two pairs of shoes during 1943. Special cards and priorities are granted to air-raid victims and expectant mothers, for whom, indeed, a very large proportion of available supplies seems to have been reserved.

The conditions of rationing during 1943 in the occupied areas were in principle the same as in Germany, except that purchasing permits were more difficult to obtain and that even the possession of a purchasing permit did not guarantee that goods could be obtained in the shops.[1] It has been estimated[2] that the total production of textile materials in France amounted to about 120,000 tons in 1943 as compared with a consumption of 470,000 tons in 1938. In 1938 the consumption of wool amounted to 200,000 tons and of cotton to 80,000; in 1943 there was no cotton available and only 4,000 tons of wool. Production of artificial and paper fibre, on the other hand, increased from 27,000 tons in 1938 to somewhat more than 90,000 tons in 1943. Thus, total textile manufacture was only about 25% in volume of what it had been in 1938, and, moreover, it was composed of qualitatively inferior products. The situation in other occupied countries and in Italy was as critical as, or worse than in France, and for long periods shoes and most articles of clothing were almost unobtainable. The prices of second-hand articles in the black market soared. Sweden and Switzerland were better off than the German-dominated areas, but rationing in 1943 was more severe than in 1942. In Sweden articles made of artificial silk are unrationed. For adults one pair of shoes is allowed for a period of 18 months (with one resoling for men's and 2 for women's shoes); children under 17 receive 75% higher rations.

In the United Kingdom rationing of clothing was introduced as

[1] In Belgium, for instance, each inhabitant was required to surrender ½ kg. of wool per year and ½ kg. of paper per month, the penalty for non-compliance being the loss of the clothing card.

[2] *Agence économique et financière belge*, May 5th, 1944.

a means of economizing labour and imported raw materials, and the level of consumption has, as in the case of food, been better maintained than on the Continent. According to official estimates personal expenditure on clothing at 1938 prices was 45% below the level of 1938, while in the case of boots and shoes the reduction amounted to 27%.[1] There are no records of the quantity of clothing in individual wardrobes before the war, so that the effect of rationing on actual clothing standards cannot be calculated. The Board of Trade, however, conducts periodical sample enquiries into wartime wardrobes of the civilian population. The results of the latest enquiry, relating to about 3,000 people of each sex,[2] indicate that the average person possesses a wardrobe sufficient to allow for changes and laundering. Men seem to be rather worse off than women. The following figures, derived from this enquiry, show the actual yearly purchases of certain important items of clothing per person:

	Women	Men
Coats, raincoats	0.5	0.18
Suits	0.25	0.66
Dresses	0.66	..
Blouses, jumpers, pullovers, etc.	0.5	0.11
Shoes (pairs)	1.5	1.21
Stockings, socks	5.0	2.71
Nightwear, pyjamas	0.5	0.14

On the whole, consumers' demand for each type of article is concentrated on the more durable and expensive goods. In contrast to Germany, some articles such as hats, sewing thread, mending wool and cloth clippings are coupon-free.[3] Certain extra allowances are granted to children and to some categories of workers.

In countries outside Europe rationing of clothes has been less common and less severe. Rationing was introduced in New Zealand and Australia in 1942. In Australia it reduced consumption below the previous level by some 40% for men, 33% for women and 30% for children.[4] In the U.S.A. clothing is free, except for shoes, the ration for which, in 1943-44, was three pairs per person a year. Indeed, consumer expenditure on clothing increased from $6,800 million in 1939 to $9,400 million in 1943,[5] or by about 38%, while prices for clothing, according to the Bureau of Labor Statistics cost of living index, had increased by a little less than 30%. Civilian consumption in 1943 would thus appear to have been somewhat higher than in 1939, but quality has in some cases deteriorated.

Ordinary residential building has ceased in most belligerent coun-

[1] *Statistics Relating to the War Effort in the United Kingdom.* Cmd. 6564, London, 1944.
[2] *The Economist,* September 2nd, 1944.
[3] *Cf. Clothes Rationing in Britain,* British Information Services, Washington, D.C., December 1942.
[4] *Facts and Figures of Australia at War,* June 1944.
[5] *Survey of Current Business,* April 1944.

tries; the migration of workers to the centres of war industry, combined with the widespread destruction caused by aerial bombardment and extended land warfare, has often led to critical housing shortages. Direct rationing of housing, however, is for many reasons almost impossible, and local shortages have been met by rent control, private or obligatory billeting in schools, private homes, etc.

In Germany, however, the destruction of housing had reached a point at which more drastic measures became indispensable. Before the war there was already an acute housing shortage and it was officially estimated that for adequate housing 2.5 to 4.5 million new flats were needed. Since then some 400,000 units at most have been erected, while a very great number have been destroyed. The presence of foreign workers in Germany has also created a new demand for housing space. During the first years of war attempts were made to relieve shortages by the subdivision of the larger flats, and by billeting, which was applied even to single rooms. At the beginning of 1943, however, such measures proved to be insufficient and a "dwelling space steering order" was promulgated and a Dwelling Commissar appointed. People were forbidden to take up residence in one big town after another until most such towns had become closed areas. People were forbidden to have more than one flat, and later no person was permitted to occupy more than one room. The sharing of available flats and houses, however, reached its limit some time ago. Many bombed-out persons have taken refuge in shelters, or in the small summer houses (*Lauben*) common in the outskirts of German industrial towns, or in huts erected from salvaged material. The foreign workers usually live in large camps.

The situation in the occupied areas was, on the whole, less critical than in Germany, owing to the lesser destruction of houses and the absence from home of those people who were workers or war prisoners in Germany. Civilian construction in Sweden and Switzerland has been maintained at a relatively high level.

In the United Kingdom the supply of housing has been seriously decreased by aerial bombing. Out of some 13 million houses which existed in the United Kingdom at the outbreak of war, 4.5 millions—about one in every three—had been damaged by enemy action up to the end of September 1944. Of these, 202,000 were totally destroyed or damaged beyond repair, 255,000 were damaged and rendered uninhabitable, and 4,073,000 were damaged but not rendered uninhabitable. A substantial number of the houses in the second category are still uninhabitable and the great majority have not yet been fully repaired.[1] In the summer of 1944 it was stated by Lord Woolton[2] that

[1] *Statistics Relating to the War Effort in the United Kingdom*, Cmd. 6564, London, 1944.

[2] *The Times* (London), September 16th, 1944, and *The Economist*, September 23rd, 1944.

107,000 houses had been permanently destroyed in the Greater London area alone; 170,000 houses were damaged to the point of needing extensive repairs, and 700,000, although they had received "first-aid" repairs, still required further repairs to be reasonably comfortable; 1,200 food retail shops were also seriously damaged. Although about a million people left London in the summer of 1944 as a result of the "flying-bomb" attacks, the housing shortage had become so serious that, in order to speed necessary repairs, special measures had to be taken by the Government. The repair work is now centrally organized under the Minister of Reconstruction; 10,000 "Portal huts" to provide emergency shelter have been promised, and unoccupied space in central London will be requisitioned by the authorities.

In the United States and Canada housing scarcities have developed in defence areas, but rent control, coupled with a certain amount of emergency construction, has, so far, proved sufficient to meet the situation.

Throughout Europe household fuel, light and gas are scarce. The industrial demand for coal has increased, leaving less for private use and for the generation of gas and electricity. In many areas lack of transport has further aggravated the situation, decreasing supplies particularly in the large towns. In Great Britain, the Ministry of Fuel limits the amount of coal which an individual consumer can buy without a special license. The free quantities for the months of November and December 1943 were 1,120 pounds in southern England, as compared with 1,400 pounds in the same months of 1942. The corresponding figures for the rest of England, Scotland and Wales were 1,456 pounds and 1,680 pounds.[1] The total consumption of fuel and light in 1943 was estimated to be 7% below the pre-war figure.[2] On the Continent of Europe scarcities were more acute, and cold had become a cause of acute suffering. In neutral Sweden and Switzerland, the reduction of coal imports caused scarcities, which were, however, mitigated by the relatively abundant supply of hydro-electric power and wood.

In most countries the consumption of cooking gas and electric power has been severely restricted, and the supply of hot water cut off or curtailed to a bare minimum. In France, for instance, electricity was rationed in January 1943 and its use for heating prohibited. In Germany a Special Trustee for the Saving of Energy was appointed in 1943; householders were supposed to save 10-20% of their already restricted 1942 consumption of gas and electricity. In Sweden no hot water is available in steam heated houses in the summer.

Owing to the scarcity of fat, soap is drastically rationed; the fat content is also smaller and inferior substitute materials are frequently

[1] *New York Times*, October 27th, 1943.
[2] *New York Times*, October 27th, 1943.

used. This shortage, together with the restricted supply of hot water, constitutes a hazard to health; it is reported from Belgium and other countries that skin diseases in particular have increased. In Great Britain rations seem adequate. Each person is allowed 1 ration coupon per week entitling him to 4 oz. (115 grammes) of common household soap, or 3 oz. (85 grammes) of toilet soap, and double allowances are granted to mothers of infants under one year of age. In Germany monthly soap rations were reduced at the end of 1942 from 80 to 70 grammes, and from July 1943 onwards rationing was applied to substitute and auxiliary washing materials, including soda and soaking, rinsing and bleaching materials. The rations in the occupied areas were smaller than in Germany and soap was often unobtainable.

Durable consumers' goods, including household furnishings, are scarce. Production in most countries has either been stopped altogether or been severely restricted; such output as is still permitted consists mostly of simplified and standardized articles of an essential nature. In the United States the manufacture of a long list of items, including washing machines, vacuum cleaners, irons, etc., which used critical materials was discontinued after Pearl Harbor. In the United Kingdom the restrictions are far more severe; but standardized "utility" furniture has been introduced to meet essential needs. In Germany and German-occupied areas, durable consumers goods have almost completely disappeared from the market, and no attempts at regular rationing have been made; a few essential articles are distributed on the basis of a direct purchasing permit system.

The scarcity of petroleum and rubber has led almost to the cessation of private motor traffic on the Continent and in the United Kingdom. In the United States and the British Dominions petrol and tires are rationed for the civilian motorist. In German-dominated Europe, even civilian railway travel for other than the most essential purposes has been prohibited, and special travel permits are required.

Among luxury (or semi-luxury) items, coffee, tobacco and spirits are free in the United Kingdom, though the last two are heavily taxed. On the Continent of Europe substitute coffee has taken the place of real coffee; tobacco is scarce and rationed.

It is difficult to judge the extent to which goods that are not absolutely indispensable have disappeared in Germany or occupied Europe. Thus, sales of electric light bulbs were prohibited for some time in 1943, but special purchasing permits were granted later; households having 2 or less rooms may purchase a new lamp if one room is without any lighting. Children can obtain new purchase vouchers for exercise books only if the old book is produced without torn-out pages. In order to obtain dentures the patient must have a minimum number of teeth missing and his ability to chew must be seriously impeded. On the whole, such small supplies of household goods and personal effects

as are still available are reserved for air-raid victims. The lack of goods, apart from rationed necessities, has increased the cash balances in the hands of the consumers. Part of these savings go directly or indirectly to swell war savings, a part finds its way into the black market, and another part into such precious articles as stamps, antiques and works of art which now represent almost the only remnant of a free market.

Food Consumption Since the Summer of 1944

The first section of this chapter described the food situation up to the end of the crop year 1943/44. The rapid changes in the military situation, the invasion of Europe from the West, and the Russian advances in the East, have affected the prospects for the present crop year. These changes relate mainly to the Continent of Europe. The available information indicates that the situation in the rest of the world, including the United Kingdom, has not materially changed since the summer of 1944.

The German food situation was made much worse by the loss of rich food-producing areas. It is not possible to give reliable estimates of how much Germany previously imported from these areas, which also contributed to the feeding of the German armies of occupation, and thus indirectly relieved pressure on the domestic market. In addition, the German harvest in 1944 seems to have been lower than in 1943, owing, among other factors, to lack of manpower, machinery and fertilizers, especially phosphates. The potato crop was originally reported to be about 70 million tons, or somewhat above the poor 1943 crop, but later reports indicate that this was an overestimate; lack of manpower is said to have prevented the harvesting of more than some 50 million tons.[1] Production of cereals and oil seeds also decreased. In consequence the supply of basic foodstuffs available to the German economy was considerably lower than in 1943.

In order to meet human requirements of calories, and thus prevent direct starvation, it became necessary to reduce further the already restricted animal production. A particularly sharp reduction was made in the numbers of hens and pigs. Eggs are uneconomical in terms of feed calories, and pigs compete for foodstuffs, such as potatoes, which are needed for direct human consumption. From 1939 up to the summer of 1944 the number of pigs had been reduced from 34 to 19 per hundred inhabitants. During this time it was found possible, however, to maintain milk herds close to the normal levels; milk represents, in terms of feed calories, the most economical animal food. During the autumn of 1944 even milk herds had to be severely reduced, and the critically short supply of animal fat (particularly butter) thus de-

[1] *New York Times*, January 12th, 1945.

clined still further. Temporarily, however, the emergency slaughter increased the supply of meat.

As a first step to meeting the new situation, bread rations of normal consumers, heavy and very heavy workers were cut by 200 grammes a week, and those of children and self-suppliers by 100 grammes a week. The proportion of rye in the ration was increased in relation to wheat; it was fixed at 65% and 75% according to district. Milling of flour with an extraction of less than 88% was discontinued. The rations of cereals (*Nahrmittel*) were reduced from 150 to 140 grammes a week. Potato rations were slightly increased in the autumn for certain classes of workers. But owing to transport difficulties, deliveries to the towns fell behind schedule, with the result that there were local shortages. It is reported that from March 1945 rations will be cut by 14%.[1]

A more drastic reduction had to be made in fat rations. They were lowered by about 60 grammes a week, corresponding to about 30% of the ration of a normal consumer. Temporarily, this decrease could be compensated for by an extra meat allowance of 110 grammes per week.

Disregarding the cut in the potato ration, the immediate reduction of the diet corresponds to some 100 calories a day for a normal consumer. While such a decrease is not quantitatively serious, it involves a considerable qualitative deterioration. The effects of the proportionately more severe fat shortage are bound to be keenly felt, and the necessary future reduction in meat rations will force the population to have recourse to a more bulky vegetable diet.

The actual deterioration is probably more severe than is indicated by the over-all figures. As the war has progressed, war man-power shortages, the wear and tear of equipment, and the direct destruction caused by aerial bombardment, have reduced the efficiency of communications and distribution. While the German ration coupons were said to have been scrupulously honoured earlier, it is now reported that, in the industrial areas, legal rations are not always available in the shops. Communal feeding has been adopted on an increasing scale. Nevertheless, there are no immediate signs of shortages so severe as to bring diets below subsistence levels.

The situation in countries which are still under German occupation is serious. In Norway, German deliveries of foodstuffs (cereals, sugar and fat) have been halted, and fishing has been drastically restricted; nonetheless deliveries have continued to be made to the occupying power. The 1944 crop, particularly of potatoes, was poor.[2] As the mainstay of the national diet during the occupation was the relatively abundant supply of fish and potatoes, the situation has become increas-

[1] *New York Times*, January 12th, 1945.

[2] The potato crop in 1944 is estimated at 800,000 tons, as compared with 1.2 to 1.5 million tons during the period 1940-43.

ingly critical, particularly in the towns. A severe shortage of milk presents a special danger to the children. Whole milk, which was reserved for children, is now restricted to infants under 2 years of age. It has been announced that all deliveries of skim milk to the towns will be stopped, at least temporarily. The population has become increasingly dependent on home-produced food and the black market for its food requirements, and the official rations are no longer indicative of the true food standard. In recognition of the increased seriousness of the situation the Allied powers have agreed to a doubling of the Swedish food relief. It now amounts to 500 tons of food a month, and an extra 3,000 tons of sugar were delivered during the autumn of 1944. The number of hot meals served daily by the Swedish relief to children and needy persons had reached 172,000 in October 1944.[1]

The dangerous situation in the occupied part of the Netherlands is caused not so much by an over-all shortage of food, as by the breakdown in the system of communications and distribution. Actual warfare and patriotic strikes, particularly among railway workers, have rendered the movement of goods from town to country difficult. The Dutch coal mines are situated in the liberated area, and railways, electric-power stations, gas-works and the pumps for drainage, are, or are in danger of being paralyzed by lack of fuel. The flooding of large fertile areas has led to further grave hardship and disorganization. The rations, which may or may not be honoured, do not depict the true situation, which, if prolonged, may prove disastrous.

In liberated Belgium and France, the over-all supply situation seems to have improved. The German evacuation, occuring as it did at the beginning of the crop year, was so swift that the Germans were unable to carry with them any large quantities of food; it thus left these countries with considerable domestic supplies, as well as with the possibility of making up for any deficiencies in domestic supplies by imports. If improvements in consumption were slower than many had hoped, this was due largely to the disorganized state of distribution and transport, and the repercussions of military operations which put the railways under a heavy strain and prevented immediate large-scale imports of civilian goods. When the German-controlled administration collapsed, it became necessary to reorganize price control and rationing thoroughly. The suppression of the black market increased the difficulties during the period of transition. During the German occupation it enjoyed a patriotic backing, as a substantial part of the total food supply was directed to the consumers by way of it. When, as in Belgium, the energetic deflationary policy of the Government more or less paralyzed the black market, the movement of goods from the farmer to the consumer was retarded. As the national governments

[1] *News from Sweden*, October 25th, 1944.

have had the time to reorganize the services of supply and distribution, the situation has improved.

In Belgium, the normal consumer's weekly rations had by October 1944 increased to 1875 grammes for bread, 135 grammes for fat, 500 grammes for sugar, 260 grammes for meat, 225 grammes for jam and 3750 grammes for potatoes. The bread ration was later increased to 2100 grammes a week. According to a statement by the Minister of Supply, fat and meat rations will be increased in January and February 1945.[1] It is stated, however, that because of transport and other difficulties, it has been impossible in some cases to honour the rations in full, particularly in urban centres such as Brussels, Antwerp and Ghent. But the situation has greatly improved in industrial areas such as Charleroi and Liège.

The supply situation in France is more favourable than in Belgium, for France is normally almost self-supporting in food, while Belgium is largely dependent on imports. While severe food shortages persist, these are due chiefly to difficulties of transport and distribution. Fruit and vegetables are no longer rationed, and it is hoped to de-ration bread in the near future.[2] The Government's first endeavour was to honour rations which during the occupation were rarely available in full. By November, moreover, it was found possible to increase the monthly meat ration of normal consumers to 250 grammes, as compared with 180 in June, and the monthly fat ration to 250 grammes, as compared with 135-180 in June. The continued shortage of edible fats is the most serious deficiency in the French diet, but American lard and canned meat have been distributed in Paris and other centres.

The situation in that part of Italy which is occupied by the Allies is, though improving, still uneven. The rich northern part of the country is in German hands, and the war, as it moved from South to North, left behind it widespread destruction of the means of communication, public utilities and the means of production in general. During the period preceding Allied liberation, the system of food distribution and rationing has almost broken down. The Allied Control Commission took over the administration of a country which was exhausted and disorganized; it had not only to restore a nucleus of industrial activity and the essential public services but also entirely to reorganize the system of food procurement and distribution. The Commission aimed initially at providing each person in receipt of a rationing card with imported food corresponding to 1000 calories a day; together with the domestic supply this was considered enough to secure a diet at or near the subsistence level. Actual achievement fell short of this goal; but progress has been achieved both in physical reconstruction, and in

[1] *News from Belgium*, January 8th, 1945.
[2] *Free France*, December 1st, 1944.

the curtailment of black markets and the elimination of counterfeit rationing cards.

Up to the end of 1944 imports of basic foodstuffs from American and British sources had totalled 1.1 million tons (in addition to 1.2 million tons of other civilian supplies). In the autumn of 1944 it was agreed that U.N.R.R.A. should allocate $50 million for supplementary relief. As part of this relief it was planned to deliver 15,000 tons of extra food a month to care for some 1,700,000 children and expectant or nursing mothers. It is reported that food conditions in the southern part of the liberated area are now relatively easy; the situation in the big towns has improved, but is still far from satisfactory. In southern Italy the bread ration of normal consumers is 2,100 grammes a week, but it remains at 1,400 grammes a week in the northern parts including the city of Rome. Workers employed directly by the Army for heavy work receive in addition a mid-day meal consisting of 150 grammes of bread, 170 grammes of vegetables and 20 grammes of dried soup. They receive also a weekly issue of pasta or dried soup. Workers employed on civilian projects of military importance receive an identical mid-day meal, but no weekly issues of pasta or soup.

After the Armistice with Russia, Finland was cut off from food deliveries from Germany. To help fill the gap Sweden undertook the delivery of 150,000 tons of cereals, 10,000 tons of sugar and 5,500 tons of edible fats.[1]

No reliable information is available concerning the situation in the areas liberated by Russia. It appears that the situation in the rest of Europe is on the whole not very different from what it was in the summer of 1944.

The developments in Europe have put the food supplies in the Western Hemisphere under a renewed strain both in supplying the armed forces abroad and for lend-lease. From the autumn of 1944 the supply of some rationed foods has grown more scarce in the United States. Meats and fats are rationed under the common "red-point" system; a great number of new items previously unrationed (including nearly all meats, cooking fats and oils, and canned milk, meat and fish) have been included under this rationing, while the number of points per person has been slightly reduced. Similarly, a number of canned fruits and vegetables, previously ration free, have become subject to the common "blue-point" rationing. The sugar rations were reduced by 25% in the spring of 1945.

[1] *News from Sweden*, November 8th, 1944.

CHAPTER IV

FINANCE AND BANKING

In a war economy, the role of finance is subordinated to the task of producing the maximum output of what is required for the conduct of war. The limits of Government spending are set by the volume of productive resources which can be mobilized for war purposes, and not by the ability of Governments to devise appropriate ways and means of financing expenditure. Although financial and monetary policies may have less immediate importance than the organization of physical production and consumption, their ultimate effects on the post-war situation may prove of crucial importance. The possibility of effecting an orderly transition from a war to a peace economy may in large part depend on the fiscal and monetary policies followed during the war.

The main object of war finance is to release economic resources for war purposes. In order to obtain command over these resources, Governments have curtailed civilian consumption, and also investment to meet civilian needs, in two ways: by directly controlling the supply of the purchase of goods, and by reducing the spendable income of individuals by taxation and by voluntary or compulsory savings. The degree to which they have had recourse to one or the other of these methods has varied in the different countries. Nowhere, however, have rationing, taxation and the promotion of saving sufficed to solve the problem. In order to obtain a volume of means of payment commensurate with their requirements, Governments everywhere have had to borrow from the banking systems and to create new money. The new money supplies have served in part to finance the additional money incomes corresponding to the additional output in countries where an increase in production and employment has taken place. But since production has been increasingly for war purposes and only part of the additional income has been absorbed by taxes, spendable income has tended to exceed the amount of goods on which it could be spent. To the extent to which rationing, taxation and savings have failed to curtail consumption sufficiently, inflationary pressures have developed, and consumption has been curtailed in a socially much less desirable way, namely by a rise in prices.

Countries can add to the output of materials required for the conduct of the war not only by curtailing consumption and increasing production, but also by acquiring part of the production of other countries. Thus Germany has drawn on foreign resources by accumulating clearing debts and, in occupied countries, by levying occupation costs and other contributions. The United Kingdom has obtained assistance from other countries by liquidating foreign investments

and contracting new foreign debts, as well as through lend-lease and similar arrangements. Foreign spending, whether it takes place directly through spending by foreign troops stationed abroad, or through outlays for the construction of military bases, etc., or indirectly through increased exports, raises problems in the country in which it takes place similar to those raised by domestic Government spending.

Whatever the causes underlying the expansion in the volume of money, Governments everywhere, given the impossibility, for the duration of the war, of combating inflation by increasing production or imports of non-war goods, have attempted to counteract inflationary forces primarily by offsetting or sterilizing excess purchasing power and by taking steps to minimize the effects of unavoidable monetary expansion on prices and the cost of living. The policies adopted with a view to reducing the volume of money (by taxation, the promotion of savings, and the absorption of liquid funds) will be outlined in the present chapter; those designed to combat the inflationary effects of the increase in the volume of money (rationing, and the control of prices and wages) are dealt with in Chapters III and V.

The principal aspects of war finance in the various countries up to the beginning of 1945 will be brought together in this chapter in the following order: the course of Government expenditures; taxation; borrowing and its absorption; the growth of gold reserves and foreign balances; the expansion in the supply of money; its effects on interest rates and security prices; and, finally, currency measures in liberated countries.

Government Expenditure

All over the world Government expenditure reached unprecedented peaks in 1943/44, and in certain countries continued to increase in 1944/45. The rate of growth slowed down, however, in the course of 1943 and 1944. Both in the United States and in the United Kingdom the estimated war expenditure in the budgets for 1944/45 was almost the same as the actual expenditure in 1943/44, and in a number of countries (Canada, Australia, New Zealand, Sweden, Switzerland and Turkey), the estimated war expenditure for 1944 or 1944/45 was somewhat lower.

In the United Kingdom, the financial year ended March 31st, 1944, was the first war year in which the increase in tax revenues exceeded the increase in Government expenditure. This result, as will be seen in Table 1, was mainly due to the slowing down in the rate of expenditure.

In the United States, the national defence programme was inaugurated in June 1940 when France fell. The President's Budget

Table 1

Government Expenditure, Revenue and Borrowing

National currencies (000,000's)

(For notes see pp. 158 and 159)

Country Currency Fiscal Year	Fiscal Year	Expenditure		Revenue Excluding Loans	Increase or Decrease (—) in Domestic Debt		
		Total (a)	Of which: War Exp. (b)	(c)	Total (d)	Long & Medium (e)	Short term (f)
UNITED KINGDOM	1938/39	1,147	400	1,006	152	74	78
	1939/40	1,904	1,141	1,132	782	213	569
£	1940/41	3,971	3,220	1,495	2,467	1,143	1,324
	1941/42	4,888	4,085	2,175	2,566	2,067	499
	1942/43	5,740	4,840	2,922	2,627	1,842	785
Apr.-March	1943/44	5,914	4,950	3,149	2,745	1,909	836
	1944/45	6,190	5,125	3,355	2,830	1,646	1,184
	1945/46	5,679E	4,500E	3,379			
UNITED STATES	1938/39	8,765	1,206	5,165	3,876	3,668	208
	1939/40	9,127	1,657	5,387	2,605	2,520	85
	1940/41	12,775	6,301	7,607	6,849	5,551	1,298
$	1941/42	32,492	26,011	12,799	21,714	17,066	4,648
	1942/43	78,182	72,109	22,282	63,733	39,208	24,525
July-June	1943/44	93,744	87,039	44,149	61,830	44,628	17,202
	1944/45	98,912E	88,000E	45,730E			
	1945/46	82,530E	69,400E	41,255E			
U.S.S.R.	1938	124,000	27,000	127,500	.	.	.
	1939	153,100	41,000	155,900	.	.	.
Roubles	1940	174,300	56,000	180,200	.	.	.
	1941	216,000E	70,900E	216,800E	.	.	.
Jan.-Dec.	1942	.	108,400	182,800	.	.	.
	1943	209,700	124,700	209,700	.	.	.
	1944	263,000	137,900	263,000	.	.	.
	1945	305,300E	137,900E	305,300E	.	.	.
CANADA	1938/39	533	34	502	86	54	32
	1939/40	681	118	562	402	394	8
C$	1940/41	1,250	752	872	873	824	49
Apr.-March	1941/42	1,885	1,340	1,489	1,787	1,665	122
	1942/43	4,387	3,724	2,320	2,194	2,049	145
	1943/44	5,360	4,625	2,856	3,159	2,911	248
	1944/45	5,152E	4,450E	2,772E			
	1945/46	*3,029E	*2,000E	.			
AUSTRALIA	1938/39	98	14	95	18	14	4
	1939/40	140	56	112	47	63	—16
£A	1940/41	256	171	150	74	62	12
	1941/42	423	319	210	208	127	81
July-June	1942/43	697	562	294	378	197	181
	1943/44	720	545	342	380	259	121
	1944/45	686E	505E	359E			
NEW ZEALAND	1938/39	47	2	39	14	—	14
	1939/40	64	8	53	18	9	9
£NZ	1940/41	86	27	70	26	21	5
	1941/42	108	52	80	40	32	8
Apr.-March	1942/43	193	144	122	74	57	17
	1943/44	206	153	140	62	62	—
	1944/45	193E	133E	135E			

Table 1 (continued)

National currencies (000,000's)

(For notes see pp. 158 and 159)

Country Currency Fiscal Year	Fiscal Year	Expenditure Total (a)	Expenditure Of which: War Exp. (b)	Revenue Excluding Loans (c)	Increase or Decrease (—) in Domestic Debt Total (d)	Increase or Decrease (—) in Domestic Debt Long & Medium (e)	Increase or Decrease (—) in Domestic Debt Short term (f)
INDIA	1938/39	1,308	521	1,210	.	.	.
	1939/40	1,304	503	1,258	436	352	84
Rupee	1940/41	1,586	748	1,451	957	1,778	2,735
	1941/42	1,874	1,054	1,737	1,170	585	585
Apr.-March	1942/43	4,253	2,711	2,354	2,650	1,016	1,634
	1943/44	4,739	3,136E	3,092E			
	1944/45	5,721E	4,566E	3,569E			
	1945/46	*5,354E	*4,120E	*3,537E			
SOUTH	1938/39	65	2	47	16	7	9
AFRICA	1939/40	69	4	49	7	7	—
	1940/41	123	60	67	53	36	17
£SA	1941/42	131	72	84	83	83	—
	1942/43	162	96	99	88	85	3
Apr.-March	1943/44	178	103	110	47	44	3
	1944/45	183E	101E	110E	.	.	.
	1945/46	* 189E	* 82E	* 124E	.	.	.
GERMANY	1938/39	*28,550	.	17,712	11,762	7,463	4,299
	1939/40	*44,858	.	23,575	21,239	5,722	15,517
Reichsmark	1940/41	*74,611	.	*30,500	37,608	17,888	19,720
	1941/42	*99,292	.	*35,900	52,392	23,075	29,317
Apr.-March	1942/43	*124,007	.	*46,400	55,607	21,267	34,340
	1943/44	.	.	.	77,589	27,146	50,443
JAPAN	1938/39	* 7,819	* 4,532E	* 3,025	4,588	4,548	40
	1939/40	* 9,098	* 4,605E	* 4,353	5,666	5,563	103
Yen	1940/41	*11,320	* 5,460E	* 7,233	7,435	6,983	452
	1941/42	*19,689	*11,555E	* 7,403	10,797	10,638	159
Apr.-March	1942/43	*27,318E	*18,000E	*11,404E	15,321	14,973	348
	1943/44	*40,275E	*27,000E	*16,605E	18,989[d]	18,634[d]	355[d]
	1944/45	*53,244E	*38,000E	*20,438E	.	.	.
ITALY	1938/39	39,853	*15,000	27,576	.	.	.
	1939/40	60,389	*27,700	32,350	.	.	.
Lira	1940/41	98,223	*58,900	34,234	242,014[a]*	127,754[a]*	114,260[a]
	1941/42	118,569	*71,318	41,224			
July-June	1942/43	135,158	*81,000	48,884	.	.	.
	1943/44	*148,000	*100,000	*50,000	240,986[b]	.	.
FINLAND	1938	5,433	1,234	4,862	102	221	—119
	1939	8,358	3,143	4,709	1,372	671	701
Markka	1940	21,309	12,845	5,183	9,400	483	8,917
	1941	31,424	15,160	11,967	9,582	4,812	4,770
Jan.-Dec.	1942	27,679	18,970	17,186	8,693	3,807	4,886
	1943	33,762	*19,000	22,039	14,548	11,209	3,339
	1944	*16,138E	.	*15,110E	13,688[h]	8,811[h]	4,877[h]
	1945	*17,554E	.	*14,482E			

Table 1 (continued)

National currencies (000,000's)

(For notes see pp. 158 and 159)

Country Currency Fiscal Year	Fiscal Year	Expenditure Total (a)	Expenditure Of which: War Exp. (b)	Revenue Excluding Loans (c)	Increase or Decrease (—) in Domestic Debt Total (d)	Increase or Decrease (—) in Domestic Debt Long & Medium (e)	Increase or Decrease (—) in Domestic Debt Short term (f)
BELGIUM	1938	14,481	1,580	11,143	1,287	740	547
	1939	15,797	3,207	11,536	2,676	297	2,379
Franc	1940	33,202	7,959	10,031	12,179	883	11,296
	1941	44,546	2,264	14,579	19,407	9,475	9,932
Jan.-Dec.	1942	57,055E	1,494E	14,646E	20,510	9,460	11,050
	1943	*62,135E	* 1,836E	*15,270E	23,937	13,668	10,269
	1944	.	.	*16,738E	42,913	40,226	2,687
	1945	9,665e		.			
DENMARK	1938/39	553	.	573	—33	—34	1
	1939/40	631	.	641	131	—31	162
Kroner	1940/41	1,855	.	900	—84	66	—150
	1941/42	1,797	.	942	180	240	—60
Apr.-March	1942/43	2,016	.	1,125	538	538	—
	1943/44	.		1,161	728	728	—
	1944/45	.	.	* 984E	.	.	
	1945/46	.	.	* 996E			
FRANCE	1938	63,499	.	54,606	.	.	.
	1939	106,377	.	63,657	62,412	12,916	49,496
Franc	1940	.	.	.	.	.	.
	1941	*266,000	.	*79,000	398,400c	31,722c	366,678c
Jan.-Dec.	1942	305,439	.	96,057	185,312	16,783	168,529
	1943	425,012	.	120,646	266,821	52,104	214,717
	1944	.	.	*136,948E	210,017h	44,916h	165,101h
	1945	*406,000	*175,000E	*192,000E			
NETHERLANDS	1938	1,082	.	1,052	—80	—49	—31
	1939	1,157	.	1,031	232	72	304
	1940	* 2,160	.	* 942	1,111	448	663
Gulden	1941	* 3,692	.	* 1,219	1,528	876	652
	1942	* 4,262	.	* 1,600	1,652	869	783
Jan.-Dec.	1943	* 4,460	.	* 1,625	1,794	791	1,003
	1944	.	.	.	*1,800i	*— 166i	*1,966i
PORTUGAL	1939	2,431	686	2,565	37	37	—
	1940	2,440	744	2,591	1,390	1,390	—
Escudo	1941	2,883	1,202	3,051	283	283	—
	1942	2,993	1,228	3,006	1,597	1,597	—
Jan.-Dec.	1943	4,043	.	3,329	582	582	—
	1944	3,769E	1,453E	2,838E			
	1945	3,982E		3,978E			
SWEDEN	1938/39	1,578	234	1,442	203	97	106
	1939/40	2,880	1,289	1,849	991	423	568
Krona	1940/41	3,878	2,069	2,037	1,545	1,206	339
	1941/42	4,085	1,933	2,268	1,757	1,361	396
July-June	1942/43	4,503	2,185	2,704	1,805	1,123	682
	1943/44	4,618	2,122	3,106	1,042	714	328
	1944/45	4,866E	2,030	3,206E	982j	741j	241j
	1945/46	* 3,240E		* 3,240E			

Table 1 (continued)

National currencies (000,000's)

(For notes see pp. 158 and 159)

Country Currency Fiscal Year	Fiscal Year	Expenditure Total (a)	Expenditure Of which: War Exp. (b)	Revenue Excluding Loans (c)	Increase or Decrease (—) in Domestic Debt Total (d)	Increase or Decrease (—) in Domestic Debt Long & Medium (e)	Increase or Decrease (—) in Domestic Debt Short term (f)
SWITZERLAND	1938	675	.	539	95	—11	106
	1939	1,038	392	603	348	288	60
Franc	1940	1,665	1,127	795	983	725	258
	1941	1,807	1,309	903	1,071	735	336
Jan.-Dec.	1942	1,605	1,083	805	890	456	434
	1943	1,870	1,263	799	1,281	1,228	53
	1944	1,880E	1,230E	793E	.	.	.
	1945	2,407E	.	793E			
TURKEY	1938/39	315	91	268	50	2	48
	1939/40	399	165	274	113	0	113
£T	1940/41	553	290	316	212	—4	216
	1941/42	583	322	384	236	16	220
June-May	1942/43	914	456	864	74	35	39
	1943/44	* 929	* 558	.	54[f]	36[f]	18[f]
	1944/45	952E	518E	850E			
	1945/46[g]	600E	.	530E			
ARGENTINE	1939	1,460	.	1,015	361	390	—29
	1940	1,320	.	967	437	148	289
Peso	1941	1,367	.	910	603	347	256
	1942	1,559	.	1,041	544	357	187
Jan.-Dec.	1943	* 1,761	.	* 1,025	1,004	583	421
	1944	1,674E	.	1,351E	.	.	.
	1945	.	.	* 1,413E			
BRAZIL	1938	4,144	.	3,880	960	500	460
	1939	4,335	.	3,795	906	833	73
Milreis	1940	4,630	.	4,036	1,216	1,131	85
	1941	4,840	.	4,045	2,202	—241	2,443
Jan.-Dec.	1942	5,748	.	4,377	1,123	—681	1,804
	1943	5,944	.	5,443	6,442	564	5,878
	1944	6,403E	.	6,430E			
	1945	8,205E	.	8,232E			
CHILE	1938	1,664	.	1,635	—13	—35	22
	1939	1,777	.	1,793	411	201	210
Peso	1940	2,202	.	2,052	219	71	148
	1941	2,761	.	2,496	354	—9	263
Jan.-Dec.	1942	3,052	.	2,954	375	359	16
	1943	3,960	.	3,326	538	462	76
	1944	3,788E	.	3,788E			
	1945	4,750E	.	4,750E			
MEXICO	1939	591	.	566	86	—3	89
	1940	631	.	565	—6	9	—15
Peso	1941	682	.	665	301	405	—104
	1942	836	.	745	255	240	15
Jan.-Dec.	1943	827	.	930	—40	—46	6
	1944	1,102E	.	1,102E			
	1945	1,004E	.	1,004E			

Notes to Table 1—Government Expenditure, Revenue and Borrowing

E Estimates. * Provisional figures. [a] July 1939 to March 1943. [b] March 1943 to September 1944. [c] December 1939 to December 1941. [d] April 1943 to February 1944. [e] First quarter of 1945. The figure in col. *a* includes 3,068 extraordinary expenditure resulting from the war. [f] June 1943 to April 1944. [g] June to December 1945; beginning 1946 the fiscal year will correspond to the calendar year. [h] December 1943 to December 1944. [i] December 1943 to July 1944. [j] June 1944 to February 1945.

General. With the exception of figures marked E, which are budget estimates, figures shown in Cols. *a-c* are actual amounts of receipts (excluding loans) and expenditure (including statutory debt redemption). Unless otherwise stated in the notes, they cover all the receipts and expenditure of the Central Government. The figures shown in Cols. *d-f* may be considered in conjunction with those for the amount of debt outstanding (in Table 7). For more detailed information on budget accounts and public debt reference can be made to the *Statistical Year-Book of the League of Nations 1941/42* (including *Addendum 1942/43*); and for such monthly figures as are available, to the *Monthly Bulletin of Statistics.*

United Kingdom: *Cols. a-c*: Excluding Lend-Lease and since 1943/44 Canadian Mutual Aid, but including in 1942/43 224.7 Canadian Government Contribution. *Col. d*: Changes in external debt: 1941/42: 108; 1942/43: 153; 1943/44: —8.

United States: Based upon President's Message of January 9th, 1945. *Cols. a-b*: Including Lend-Lease.

U.S.S.R.: Central budget of the Union. The total of the sixteen budgets of the Republics amounted to 22,000 in 1940 and to 52,200E in 1945. *Col. c*: Actual revenue in 1941 amounted to 191,400.

Canada: *Cols. a-b*: Including in 1942/43 1,000 for supplies to the United Kingdom, in 1943/44 and in 1944/45 913 and 800E United Nations Mutual Aid. *Col. c*: Including refundable revenue: 1942/43: 70; 1943/44: 155; 1944/45: 155E. *Col. d*: Changes in external debt: 1939/40: —82; 1940/41: —83; 1941/42: —165; 1942/43: —7; 1943/44:* —116.

Australia: Consolidated Revenue Fund *plus* the Loan Fund. *Cols. a-b*: Including Reciprocal Lend-Lease to United States Forces: 1942/43: 59; 1943/44: 110; 1944/45: 110E. *Col. d*: Changes in external debt: 1939/40: —1; 1940/41: 11; 1941/42: —6; 1942/43: —2; 1943/44: —18.

New Zealand: Ordinary, Capital, Social Security and War budgets after deductions for duplication resulting from transfers. *Col. a*: Including Reverse Lend-Lease: 1942/43: 7; 1943/44: 24; 1944/45: 24E. *Col. c*: Including Lend-Lease: 1942/43: 27; 1943/44: 32; 1944/45: 25E. *Col. d*: Changes in external debt: 1939/40: 1; 1940/41: —; 1941/42: —5; 1942/43: 4; 1943/44: 1; 1944/45: None.

India: *Cols. a-b*: Including capital outlay. Including Reciprocal Aid to U.S.A.: 1942/43: 122; 1943/44: 260E; 1944/45: 430E. *Col. d*: Changes in external debt: 1930/40: —259; 1940/41: —1,189; 1941/42: —1,342; 1942/43: —1,564.

South Africa: Revenue Account *plus* Loan Account, with adjustments for transfers. Changes in external debt: 1939/40: 5; 1940/41: —8; 1941/42: —38; 1942/43: —39; 1943/44: —2.

Germany: *Col. a*: Estimated on the basis of internal revenue (as shown in *Col. c*), net borrowing (*Col. d*) and occupation costs paid by occupied countries (1940/41: 6,500; 1941/42: 11,000; 1942/43: 22,000). *Col. c*: Taxation receipts *plus* other internal revenue (war contributions of local authorities, net receipts of public enterprises, etc.) *plus* in 1942/43 7,700 from rent-tax composition.

Japan: *Col. a*: The figures for 1938/39-1941/42 are actual results of ordinary and extraordinary budgets *plus* estimates of the special war budget (as shown in *col. b*).

Italy: *Col. a*: Includes ordinary and extraordinary budgets but excludes capital account (expenditure for the latter amounted to: 1938/39: 2,800; 1939/40: 9,100; 1940/41: 7,400). The ordinary budget deficit was estimated at 180,000 in 1943/44. *Col. d*: Excluding indebtedness incurred by the "Fascist Republican Government" (the occupation costs paid to Germany amounted alone to 70,000 million up to May 1944).

Finland: Changes in external debt: 1939: 683; 1940: 1,578; 1941: 886; 1942: 635; 1943: 419.

Belgium: *Col. a*: Total expenditure, including occupation costs (1940: 4,500; 1941: 16,300; 1942: 18,500; 1943: *20,000) and German deficit on clearing account (1940: 3,200; 1941: 8,500; 1942: 18,500; 1943: *24,000). According to an official statement, expenditure of the Belgian State from May 1940 to July 1944 amounted to 222,189 million

francs, *i.e.* national expenditure 85,378 million, occupation costs 71,463 million and deficit on German clearing account and absorption of German notes 65,348 million. *Col. d*: The Government guarantee to the National Bank on account of advances made to the Bank of Issue, which financed the clearing with Germany, is not included in the debt statements as shown in the Table. Changes in external debt: 1938: —692; 1939: —164; 1941: —1,467; 1942: —27; 1943: —391.

France: *Col. a*: The figures shown for 1938 and 1939 relate to ordinary expenditure. The figures given for 1941-1944 are made up of the following (in millions):

	1940	1941	1942	1943	1944 Jan.-Aug.
Ordinary and extraordinary expenditure	.	122,000	133,106	134,992	107,329
Occupation costs (net)	80,000	130,000	124,526	218,641	132,793
German deficit on clearing account	.	12,000	33,000	63,000	52,000
Treasury advances and miscellaneous (net)	.	2,000	14,807	8,379	.
Total	.	266,000	305,439	425,012	.

According to an official statement made by the Minister of Finance on November 30th, 1944, the total expenditure from September 1st, 1939 to September 1st, 1944, amounted to 1,650,000 million francs, including 860,000 million expenditure on German account; normal revenue covered 535,000 million while 600,000 million were financed by Treasury bonds, and 515,000 million by advances from the Bank of France.

Denmark: *Col. a*: Ordinary expenditure, occupation costs (1940/41: 514; 1941/42: 414; 1942/43: 592) *plus* clearing account (1940/41: 498; 1941/42: 476; 1942/43: 343). Net change in external debt: 1939/40: —18; 1940/41: —19; 1941/42: —45; 1942/43: —9. *Col. d*: The financing of the clearing with Germany and of the costs of occupation was done directly and in full by the National Bank; however, since the middle of 1942 the Government issued loans the proceeds of which were transferred to a blocked account of the Finance Ministry with the National Bank.

Netherlands: *Col. a*: Estimated in 1940-1943 on the basis of revenue (*Col. c*), net borrowing (*Col. d*) and the increase in the clearing items shown in the Netherlandsche Bank's returns (1940: 107; 1941: 945; 1942: 1,010; 1943: 1,041). Figures shown refer to total revenue in 1938-1940 and 1943, and to tax revenue in 1941 and 1942.

At the end of the fourth year of occupation, occupation costs reached 4,800 million, the contribution to the war against Russia, 1,350 million, and the clearing deficit 4,200 million florins.

Portugal: Changes in external debt: 1939: 84; 1940: —2,145; 1941: —59; 1942: —20.

Sweden: *Cols. a-b*: Ordinary and capital accounts. Excluding in 1944/45 "General Emergency Budgets II and III" which authorized additional expenditure of 555 million on ordinary budget account and 377 million on capital budget account under certain conditions relating to unemployment. The figures for 1945/46 include extraordinary military expenditure only for June-September 1945. *Col. c*: Ordinary account: receipts of the capital account consist mainly of proceeds of loans.

Switzerland: *Cols. a* and *c*: Ordinary and extraordinary accounts. *Col. b*: National Defense *plus* War Economy. The 1945 figures are based on the assumption that the same degree of military preparedness is maintained for the whole year. *Cols. d-f*: Excluding debt of the Federal Railways.

Turkey: Changes in external debt: 1939/40: 110; 1940/41: 12; 1941/42: 12; 1942/43: 5; June 1943-April 1944: 33.

Argentine: *Cols. a* and *c*: Ordinary and extraordinary budgets. Changes in external debt: 1939: 157; 1940: —46; 1941: —27; 1942: —65; 1943: —119.

Brazil: *Col. a*: Excluding expenditure under the Special Plan for Public Works and National Defense (1940: 600E; 1941: 600E; 1942: . ; 1943: 600E; 1944: 1,000E) and the War Budget (4,616 million up to June 1944). Changes in external debt: 1940/41: —209; 1941/42: —319; 1942/43: —224.

Chile: *Col. a*: Excluding expenditure under Special Laws: 1939: 62; 1940: 80; 1941: 51; 1942: 234; 1943: 378. Changes in external debt: 1939: —42; 1940: —36; 1941: —21; 1942: —22; 1943: —11.

Mexico: Excluding extra-budgetary operations: 1939: 70; 1940: 28; 1941: 96; 1942: 170; 1945: 260E.

Message for the year ending June 30th, 1946, traces its development in the following manner:

Table 2

War Expenditure in the United States

Including net outlays of Government Corporations

Type of Expenditure	1940-41	1941-42	1942-43	1943-44	1944-45[a]
			$(000,000,000's)		
Munitions, including ships	2.3	12.7	42.3	55.6	53.8
War construction and war plant:					
Industrial plant and equipment	0.8	4.1	6.7	2.6	1.3
Non-industrial and military construction	1.4	3.5	6.0	2.0	0.9
Total war construction and war plant	2.2	7.6	12.7	4.6	2.2
Pay, subsistence, and other non-munitions[b]	2.2	8.0	20.1	29.5	33.0
Total war expenditures	6.7	28.3	75.1	89.7	89.0

[a] Revised estimate.

[b] Including agricultural, lend-lease and other civilian war activities.

The table shows how the various categories of war expenditure have changed in relative importance during the course of the war. Expenditure on industrial plant and other war construction purposes reached its peak in 1942/43, while expenditure for munitions and ships was expanding up to 1943/44 and that for pay and subsistence of the armed forces was still increasing in 1944/45.

The figures for the U.S.S.R. in Table 1 are based on two official statements on war finance issued since 1941. It will be noted that total expenditure in 1944 was less than double what it had been in 1939 and that war expenditure was only slightly over three times as high. These relatively small increases as compared with other belligerent nations, are of course due partly to the comprehensive nature of the Soviet budget and partly, no doubt, to the high degree of pre-war military preparedness. It is worth noting, also, that a substantial increase in total expenditure was planned for 1945. This fact is due to the rapid expansion of expenditure for purposes of economic reconstruction.[1]

[1] The figures shown in Table 1, col. (*a*) can be further subdivided as follows (actual expenditures except the figures marked E, which are budgetary estimates):

	1940	1941	1942	1943*	1944*	1945
			(Roubles 000,000,000's)			
Total expenditure	174.3	216.0E	.	210.0	263.0	305.3E
Of which:						
Defence	56.0	70.9E	108.4	124.7	137.9	137.9E
National Economy	57.1	73.2E	.	31.1	49.0	64.6E
Social and cultural development	43.0	47.9E	.	37.7	51.1	66.1E

* Provisional results.

In Canada the rate of growth of Government expenditure has been almost as great as in the United States. Canada's actual expenditure in 1943/44 was, however, slightly below the amount estimated in the budget for that year. In New Zealand, also, the expenditure in 1943/44 fell short of the amount voted, while revenue exceeded the budget estimate. In Australia, the expenditure in 1943/44 decreased in comparison with 1942/43; and the estimated war expenditure for 1944/45 was less than the 1943/44 war expenditure. The decrease in war expenditures in the British Dominions is due to two factors: a reduced programme of capital investment for war purposes, and the need to divert a certain amount of manpower from the armed forces and munitions factories to the production of essential supplies required by the United Kingdom and other countries.

Lend-lease expenditure is included in war expenditure in the United States, and "reverse lend-lease" or "mutual aid" are included in expenditure in the United Kingdom and in the British Dominions. In New Zealand, the amount of lend-lease supplies received is shown under receipts. Such figures concerning the value of resources received or furnished under lend-lease and mutual aid as have been disclosed in national budgets are cited on page 158.[1] In the United States, lend-lease expenditure from March 11th, 1941, to June 30th, 1944, constituted 15% of total war expenditure. Mutual aid provided by Canada amounted to 20% of total war expenditure in 1943/44. Reciprocal aid furnished to United States forces in the fiscal year 1943/44 by Australia and New Zealand amounted to 20% and 16% respectively of those countries' war expenditures. In India the proportion of war expenditure in the fiscal year 1944/45 devoted to reciprocal lend-lease to the United States forces is 14%.

Budgetary accounts have not been published in Germany since 1933, and the figures shown in Table 1 are estimates compiled on the basis of various official statistics, as explained in the note on page 158. According to German sources[2] it would appear that during the first five years of the war German war expenditure amounted to 420,000 million Reichsmarks[3] out of a total Government expenditure of 517,000 million Reichsmarks. These estimates, and also those given in Table 1 and in the accompanying note, include the occupation costs exacted from occupied countries, but exclude requisitions and other levies which Germany imposed on the parts of the

[1] For the composition of lend-lease and mutual aid exports, see Chapter VI.

[2] *Die Bankwirtschaft*, November 15th, 1943, *Neues Wiener Tagblatt*, January 1st, 1944, and a German broadcast reported in the *New York Times*, October 23rd, 1944.

[3] October 1939-August 1940: 41,400; October 1940-August 1941: 65,200; October 1941-August 1942: 84,500; October 1942-August 1943: 100,600; October 1943-August 1944: 130,000 million Reichsmarks. The total estimate of 420,000 million Reichsmarks appears to be consistent with the figures for total expenditure as calculated in Table 1 on the fiscal year basis.

U.S.S.R. which she occupied in the course of the war. The figures for Italy, which were made public after the change in political régime in August 1943, show that there was a constant increase in war expenditure, while the outlay for other purposes was stationary in spite of a substantial rise in prices. In Finland, Government expenditure seems to have reached its peak as early as 1942. For Japan only budget estimates are available for recent years: they show an uninterrupted increase in total expenditure and a constantly higher proportion of war expenditure in the total.

The figures shown in Table 1 for the four western European countries occupied by Germany, cover budgetary and extra-budgetary operations, including the financing of occupation costs and clearing deficits. These operations, though they were financed outside the budget, must, for obvious reasons, be assimilated to budget expenditure for purposes of appraising the monetary effects of public finance. The notes on page 159 contain a few essential details regarding the methods used and the amounts involved. The figures given, although they have been carefully checked against all the available sources, are tentative. In France, as well as in Belgium, the Netherlands and Denmark, expenditures have shown a continuous upward tendency, reflecting partly the growth of the annual occupation costs and credits granted to Germany and partly the rise in prices. The rate of expenditure in France and Belgium after the liberation of these countries, showed no diminution in comparison with the previous outlay on account of ordinary and extraordinary budgets and occupation costs.[1]

The budget expenditures in the European neutrals show diverse tendencies. In Sweden expenditure appears to have been falling since 1942/43; in Turkey it has risen slightly, and in Switzerland and Portugal very considerably since the financial year beginning in 1942.

The intensity of the war effort in two of the principal belligerent countries is illustrated by the following figures showing the ratio of Government expenditure to the national income in the United Kingdom and the United States.

It will be seen that in the United Kingdom since 1941 and in the United States since 1943, Government expenditure on goods and services has amounted to more than one-half of the net national income. The increase in the percentage share of Government expenditure in the national income was almost exactly the same in the United States between 1941 and 1943 as it was in the United Kingdom between 1939 and 1941.

[1] For the first quarter of 1945, French budgetary expenditure was estimated at 101,386 million francs (of which 43,000 million for defence), Belgian expenditure at 9,665 million francs (of which 3,068 million for extraordinary expenditure resulting from the war).

Table 3

Proportion of National Income Absorbed by Government Expenditure

National Income (A)[a] and all Government Expenditure (B)[b]

		1939	1940	1941	1942	1943	1944
United Kingdom	A[a]	5,657	6,759	7,974	8,762	9,365	9,594
£(000,000's)	B[b]	1,360	3,081	4,204	4,577	5,151	5,179
	B as % of A	*24*	*46*	*53*	*52*	*55*	*54*
United States	A[a]	81.2	90.0	115.4	145.3	176.8	190.0
$(000,000,000's)	B[b]	16.0	16.7	26.5	62.0	94.8	99.4
	B as % of A	*20*	*19*	*23*	*43*	*54*	*52*

[a] Net national income at current market prices, including indirect taxation.
[b] Central and local government expenditure on goods and services (*i.e.* excluding transfer expenditure).

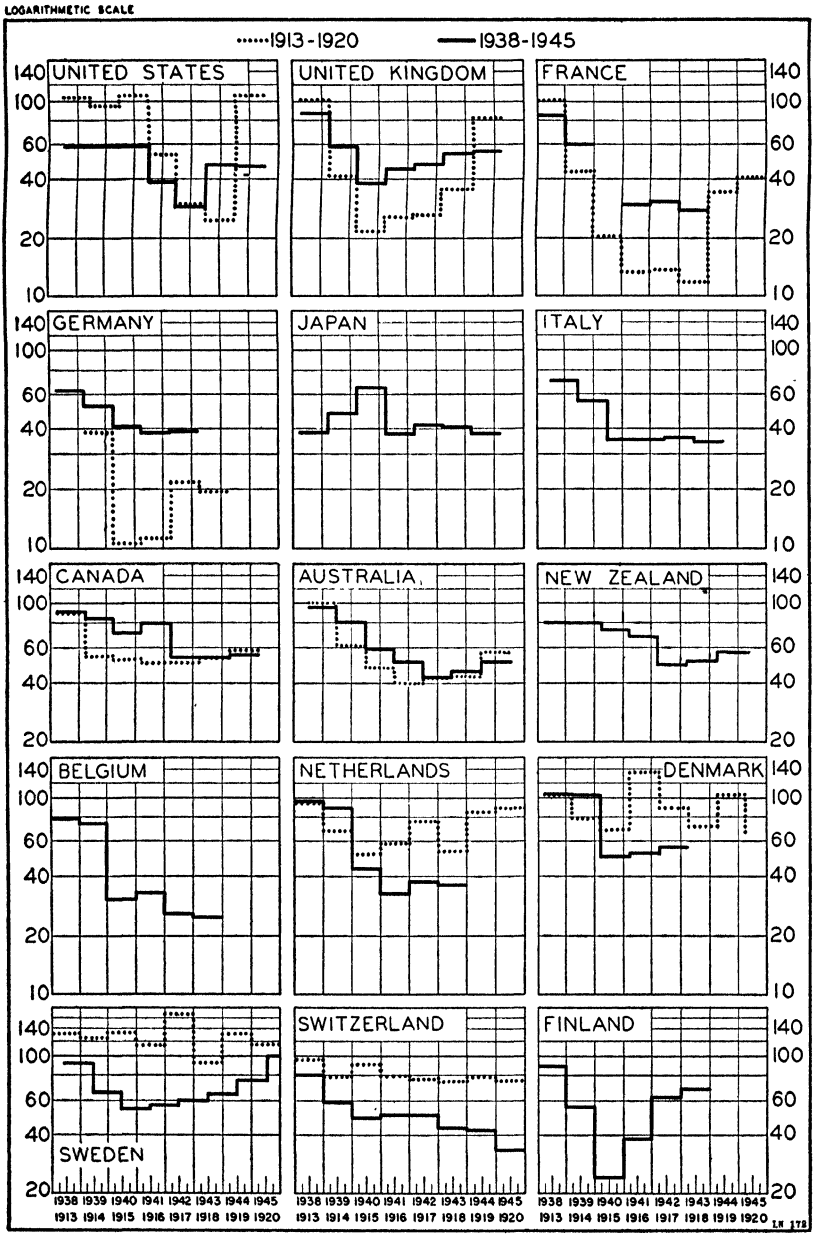
The magnitude of the problems that will arise in the immediate post-war period as a result of the termination of Government spending for war purposes may be illustrated by comparing the total Government expenditures of a few countries in the first world war with their expenditures during the corresponding period of the present war. In the United States the total expenditure in the five years 1914-19 amounted to $36,000 million, as against $226,000 million in 1939-44; and war expenditure in the last year of the first world war was $16,000 million, as compared with about $90,000 million in 1944. In the United Kingdom, aggregate expenditure in the five years beginning 1914 amounted to £9,600 million as against £22,400 million from April 1939 to March 1944; in Germany the corresponding figures for the same period were 164,000 million Reichsmarks as against some 500,000 million Reichsmarks; in neutral Sweden, 2,600 million kronor against 19,700 million kronor, and in Switzerland 1,000 million francs against 8,000 million francs.

Taxation

A factor of major importance in war-time finance is the proportion of total expenditure covered by tax receipts and other current revenue. Taxation has been employed much more efficiently for curtailing excess purchasing power and controlling inflation during this war than it was during the first world war. This is illustrated in Diagram 1. Two striking facts are apparent from this diagram. First, in both wars, the proportion of expenditure covered by revenue fell almost instantly when Governments were obliged to expand their war expenditure on becoming involved in the war (in 1914 and 1939 in most belligerent countries, and 1917 and 1942 in the United States); later, when fiscal policies were adjusted to the requirements of a war economy, the proportion covered by tax receipts increased

Diagram 1

Proportion of Government Expenditure Covered by Revenue in 1938-45 and 1913-20



again. Secondly, a substantially higher proportion of total expenditure has been covered out of revenue in the present war than in the first world war: in the United Kingdom, the proportion is 48.5% during this war against 28.5% during the last, in the United States 40.7% against 31.5%, and in Germany about 40% against 18.2%. In neutral countries, however, the reverse development has taken place: in Switzerland the percentage is now 48.8 as compared with 80.9 in the last war, and in Sweden 58.9 as compared with a surplus of revenue over expenditure of 5.6%. This is largely due to the much greater defence expenditure incurred on this occasion by the neutral countries.

The following table shows the approximate proportions during the five years 1939/40-1943/44 for a number of countries:

Table 4

Proportion of Government Expenditure Covered by Revenue in 1939/40-1943/44[a]

India	72	Switzerland	49
New Zealand	71	United Kingdom	48[b]
Argentine	66	United States	41
South Africa	62	Netherlands	41
Canada	60	Germany	40
Sweden	59	Italy	37
Denmark	57	Japan	35
Finland	50	Belgium	31
Australia	49	France	31

[a] The percentages shown, except those for Japan which are reproduced from the *Oriental Economist, March 1943*, are based on the figures given in Table 1 and, for France, in the note to Table 1. They cover the five-year period 1939/40-1943/44 except those for France (1941-43) and Japan (1942/43-1943/44). The figure for Germany has been estimated on the basis of domestic revenue (*i.e.*, excluding occupation costs, etc.).

[b] In 1944/45, the proportion of total expenditure met out of revenue in the United Kingdom was 53%, a higher proportion than in any previous war year.

No budget accounts have been made public for China, but it has been reported[1] that about three-fourths of the Chinese Government's total receipts were derived from loans in the first half of 1944.

The composition of tax revenue in thirteen countries is shown in Table 5. The countries selected include belligerents and neutrals from all five continents, and are representative enough to allow us to draw certain general conclusions.

Income and profit taxes increased sharply in the early years of the war, and new taxes on income and property were introduced under designations such as National Defence or National Security Taxes. In some countries tax rates on individual and corporate incomes were brought to such high levels in the first two or three years that they

[1] U.S. Department of Commerce, *Foreign Commerce Weekly*, February 3rd, 1945.

Table 5

Government Tax Revenue

Millions of national currency units. E: Budgetary Estimates

Country	1938/39	1942/43	1943/44	1944/45	1945/46
UNITED KINGDOM: (£)					
Fiscal years: April to March					
				E	E
Income Tax and Surtax[a]	398	1,082	1,260	1,390	1,430
National Defence Contribution	22	31	33	33	500
Excess Profits Tax	—	347	467	477	
Estate Duties	77	93	99	111	115
Stamp Duties	21	15	18	17	19
Motor Vehicle Duties	36	29	27	29	30
Excise	114	425	482	497	541
Customs	226	460	561	579	589
Miscellaneous	2	1	1	1	1
Total	896	2,483	2,948	3,135	3,225
UNITED STATES: ($)					
Fiscal years: July to June					
				E	E
Income Taxes	2,189	16,094	34,655	35,056	31,022
Social Security Taxes	740	1,498	1,739	1,794	2,056
Other Internal Revenue	2,232	4,553	5,291	6,551	6,520
Customs	319	324	431	326	326
Total	5,480	22,469	42,116	43,727	39,924
CANADA: ($C)					
Fiscal years: April to March					
				E	
Income Tax[a]	132	802	1,124	1,130	.
National Defence Tax	—	80	—	—	.
Tax on Dividends and Interest	10	28	27	27	.
Excess Profits Tax	—	455	469	425	.
Succession Duties	—	13	15	17	.
Sales Tax	122	233	305	290	.
Excise	75	394	476	495	.
Customs and Other Taxes on Imports	94	119	168	160	.
Miscellaneous	3	12	8	8	.
Total	436	2,136	2,592	2,552	.

[a] The total amount of the post-war credits in respect of Income Tax accrued up to March 31st, 1944 is about £350,000,000.

[a] Including in 1942/43: $70,000,000, and in 1943/44: $155,000,000 Income and Excess Profits Taxes refundable after the war.

Table 5 (continued)

Country	1938/39	1942/43	1943/44	1944/45	1945/46
AUSTRALIA: (£A)					
	Fiscal years: July to June				
				E	
Income and War Company Tax	12	151	194	211	.
Land Tax	2	4	4	4	.
Estate Duty	2	3	3	3	.
Sales Tax	9	29	28	27	.
Excise	16	44	47	47	.
Customs	31	21	21	20	.
Miscellaneous	2	5	7	7	.
Total	74	257	304	319	.

Including tax collections reimbursed to the States.

NEW ZEALAND: (£NZ)					
	Fiscal years: April to March				
				E	
Consolidated and War Exp. Accounts:					
Income Tax	9	25	31	32	.
National Security Tax	—	17	19	19	.
Land Tax	1	1	1	1	.
Stamp and Death Duties	3	7	7	7	.
Highway Taxes	3	2	2	2	.
Sales Tax	4	11	13	13	.
Customs	11	10	10	11	.
Excise	1	2	4	3	.
Total	32	75	87	88	.

UNION OF SOUTH AFRICA: (£SA)					
	Fiscal years: April to March				
			E	E	
Income Tax	17	31	31	31	.
Mines Contribution	—	8	8	8	.
Excess Profits Duty	—	12	14	13	.
Stamp and Death Duties	3	3	5	6	.
Trade Profits Special Levy	—	4	5	5	.
Non-Resident Shareholder's Tax	—	1	1	1	.
Personal and Savings Fund Levy	—	2	2	2	.
Excise	3	9	12	15	.
Customs	9	8	8	9	.
Miscellaneous	1	1	2	2	.
Total	33	79	88	92	.

Table 5 (continued)

Country	1938/39	1942/43	1943/44	1944/45	1945/46
JAPAN: (Yen)					
Fiscal years: April to March					
		E	*		
Income Tax	932	2,734	3,334E	.	.
Special Profit Tax	186	1,210	1,518E	.	.
Inheritance Tax	46	75	86E	.	.
Other Direct Taxes	71	11	8E	.	.
Consumption Taxes	561	1,652	2,387E	.	.
Government Monopolies	261	512	.	.	.
Customs	166	41	45E	.	.
Stamp Duties	92	160	157E	.	.
Miscellaneous	30	37	5E	.	.
Total	2,345	6,432	7,182[a]	9,491[a]	.

[a] Actual tax receipts.

Millions of national currency units. E: Budgetary Estimates

ARGENTINE: (Peso)					
Fiscal years: January to December					
				E	E
Income Tax	108	198	214	340	405
Excess Profits Tax	—	—	—	60	65
Inheritance Tax	17	26	31	30	35
Land Tax	30	32	33	34	35
Stamp Duties	63	71	73	105	115
Sales Tax	34	44	46	68	69
Excise (Unified Taxes)	166	186	195	215	240
Customs	377	192	127	190	125
Total	795	749	719	1,042	1,089
BRAZIL: (Milreis)					
Fiscal years: January to December					
				E	E
Income Tax	287	988	1,498	2,239	2,592
Excise	889	1,254	1,554	1,661	2,320
Sales Tax	237	432	579	652	863
Customs	1,053	674	596	760	852
Total	2,466	3,348	4,227	5,312	6,627
BELGIUM: (Franc)					
Fiscal years: January to December					
				E	
Direct Taxes	3,281	5,591	7,473	7,652	.
Customs and Excise	3,059	2,829	2,269	2,094	.
Registration Taxes	3,330	5,404	5,445	5,304	.
Total	9,670	13,824	15,187	*15,050	.

Table 5 (continued)

Country	1938/39	1942/43	1943/44	1944/45	1945/46
FRANCE: (Franc)					
	Fiscal years: January to December				
				E	
Direct Taxation	9,248	28,223	40,386	41,672	.
Registration and Stamp Taxes	6,608	10,084	11,935	10,834	.
Taxes on Bourse Operations and Capital Yields	6,008	7,166	6,135	6,996	.
Customs	8,823	1,610	998	808	.
Indirect Taxes	5,122	4,819	4,365	5,573	.
Business Turnover Tax .	9,844	17,765	25,937	26,902	.
Armament Tax	—	—	—	—	.
Tax on Transactions	—	8,223	11,562	12,428	.
Sugar and Monopolies Taxes	1,310	1,590	1,735	2,496	.
Total	46,963	79,480	103,053	107,709	.
ITALY: (Lira)					
	Fiscal years: April to March				
Direct Taxes ..... } Indirect Taxes and Duties }	12,600	10,817	.	.	.
		11,330	.	.	.
Customs Duties and Indirect Taxes on Consumption	6,400	6,132	.	.	.
Monopolies and Lotteries	4,100	8,886	.	.	.
Total	23,100	37,165	.	.	.
SWEDEN: (Krona)					
	Fiscal years: July to June				
				E	
Income and Property Tax	368	521	611	667	.
Defence Tax	—	375	450	500	.
War Profits Tax	—	34	50	50	.
Stamp and Death Duties	70	63	70	70	.
Motor Vehicle Duties ...	130	37	40	39	.
Turnover Tax	—	289	300	300	.
Excise	330	677	749	746	.
Tax on Commodities ...	—	57	57	55	.
Customs	207	111	105	110	.
Total	1,105	2,164	2,432	2,537	.

have not been raised further since; in the fiscal laws for 1944/45 some relief at the bottom of the income tax scale has been granted in several countries including Canada, New Zealand, and India; in his Budget Message for 1945/46, the President of the United States stated that minor tax adjustments will become possible and desirable "when a favorable development of the war allows a major decline in war expenditures"; and the British 1944/45 Income Tax Bill provided for relief in post-war industrial taxation. The number of per-

sons subject to direct taxation has increased everywhere; in the United States from about 4 to over 40 million, in the United Kingdom from about 4 to 11 million, in Canada from 200,000 to over 2 million. In order to meet the problem of the time lag in the tax payments of a vastly increased number of tax-payers, collection at the source of income was introduced in countries which did not already apply the "pay as you earn" principle: thus the United States and the United Kingdom introduced it in 1943, and Australia in 1944. As regards indirect taxes, the most typical change has been the introduction or augmentation of turnover taxes in a variety of forms; the United States Federal Government was here the only exception. Consumption taxes have also been raised considerably. Another feature depicted in Table 5 is the constant increase in customs collections in countries such as the United States, Canada and the United Kingdom; in the latter case this has largely been an effect of changes in rates of customs duties. On the other hand, there has been a decline in customs collections in Continental Europe, Latin America and Japan.

The change in the relative importance of direct and indirect taxes in various countries is shown in Table 6. It will be seen that in 1943-

Table 6

Percentage Composition of Tax Revenue

	1938/39		1943/44	
	Direct %	Indirect %	Direct %	Indirect %
United States	53	47	86	14
Union of South Africa	61	39	73	27
New Zealand	41	59	67	33
Australia	22	78	66	34
United Kingdom	55	45	63	37
Canada	33	67	63	37
Japan	53	47	63[a]	39[a]
Belgium	34	66	49	51
Sweden	40	60	49	51
Argentine	27	73	49	51
France	20	80	39	61
Brazil	12	88	35	65
Italy	31[b]	69[b]	29[c]	71[c]

[a] 1942/43 budget estimates.
[b] 1940/41 actual results.
[c] 1942/43 actual results.

44 direct taxes in all the countries given, with the exception of Italy, accounted for a substantially higher proportion of total tax receipts than before the war; that the proportion of the total derived from direct taxes in 1943/44 was very much higher in the United States, the United Kingdom and the British Dominions than in Continental

Europe; and that in Italy, where inflation has been acute for years, less than one-third of total tax receipts came from direct taxes. Indirect taxes tend to impose an unduly heavy burden on people with small incomes since they are usually regressive. Their effect in some countries has been partly mitigated by Government subsidies for keeping down food prices.

Among the countries which are not covered by Table 5, the U.S.S.R. shows significant developments in war-time taxation. Before the war, the main source of revenue in the U.S.S.R. was the turnover tax which accounted for more than two-thirds of total revenue. In 1944, however, this tax was expected to yield no more than one-third[1] of total receipts. As most of the receipts from the turnover tax are derived from the sale of consumers' goods, the decline in those receipts indicates a drastic curtailment of consumption. This decline has been even more severe than appears from the figures of actual receipts, since the rate of tax was doubled in 1942.

In Germany, no statements of tax receipts have been made public since 1942/43,[2] apart from an official declaration that in 1943/44 revenue from taxation remained stable at the level reached during the preceding year, and that the estimated figure for 1944/45 was approximately the same. This statement was made in order to refute rumours that there had been an absolute decline in tax revenue as a result of the destruction wrought by bombing. An exceptional measure was the abolition of the house-rent tax and its replacement by a lump sum to be paid to the Reich, equivalent to 13¼ annual payments of the former tax, subject to certain allowances on account of payment in cash, war damage, etc. The yield was reported to have amounted to 7,700 million marks, of which some 4,000 million were paid in cash.

Countries which lacked adequate systems of taxation endeavoured to modernize their tax machinery, and to introduce direct taxes on income and property. This is true more particularly of the countries of the Middle East; but China, where maritime revenues, taxes on industry in the treaty ports and the salt tax were the chief sources of revenue before the war, also introduced income and property taxes and excise taxes on consumers' goods. The land tax was transferred from the provincial authorities to the Chinese National Government, which reorganized it on the basis of collection in kind. The food thus collected, together with obligatory sales of food to the Government, has been used to feed the army and Government employees.

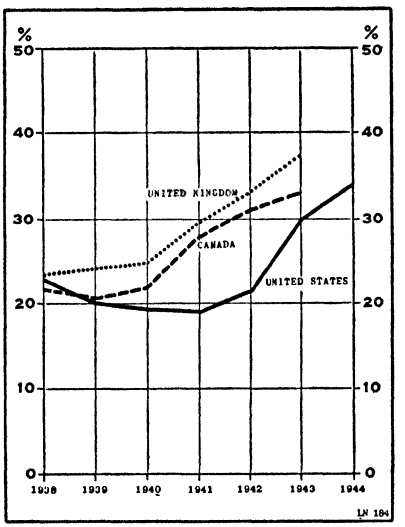
[1] Out of the total revenue as shown in Table 1, col. (*c*), turnover tax amounted to: 1940: 105,800; 1941: 124,500E; 1942: 105,900; 1943: 71,100; 1944: 80,200E. The rest of revenue consists of a special war tax enacted at the end of 1941 (33,000 million in 1943), tax on profits (20,000 million in 1943), and loans, and funds "mobilized" from state enterprises. This last source has accounted for about 320,000 million in the course of the war.

[2] Such figures as have been disclosed are reproduced in the note to Table 1.

In a few countries, Governments have had recourse to capital levies. In Finland a non-recurrent levy was imposed in 1940, payable in ten instalments. Out of the total of 8,975 million marks, 6,733 million had been collected by the middle of 1944. A new capital levy, to be paid (partly in kind) over a period of two years, was imposed in November 1944. In Switzerland, a tax on capital, called a "defence sacrifice," was introduced early in the war. A lump-sum tax on exceptional war profits, which was in fact a capital levy, was imposed in Turkey in November 1942. Out of the total of £T 380 million, Istanbul was assessed at £T 300 million. The total assessment was approximately equal to budget revenue from normal taxation in 1942 and was equivalent to one-half of the note circulation in December 1942. A capital levy was under consideration in Belgium as part of the monetary reform inaugurated in October 1944.

Diagram 2

Proportion of National Income Absorbed by Central and Local Government Taxation



In order to absorb funds held in readiness for tax payments, advance payments have been permitted on certain taxes, as, for example, in Sweden in 1943. In a number of countries new types of securities have been devised and extensively used for this purpose: thus in 1941 tax-reserve certificates were introduced in the United Kingdom, and tax anticipation notes in the United States.

The most satisfactory measure of the burden of taxation is the proportion which the total amount of taxation bears to the national income. For three countries for which the available data are sufficiently complete, the proportion of national income absorbed by taxation, central and local, is shown in Diagram 2. The increase in

the proportion of the national income absorbed by taxation has been greatest in the United Kingdom; moreover, taxation absorbs an absolutely higher proportion of national income in that country than in the United States or Canada. Before the war central and local taxation absorbed about 23% of national income in the United States and the United Kingdom, and somewhat less (around 21%) in Canada. By 1943 these proportions had risen to 37% in the United Kingdom, 33% in Canada, and 30% in the United States. It is reported that in Sweden about 20% of the national income was taken in taxation in that year.

Government Borrowing

Diagram 1 shows the proportion of total expenditure covered by taxation and other current revenue. The rest of the expenditure incurred has been met by borrowing, the greater part of which has been internal.[1] Table 7 shows the debt outstanding before the present war and at the most recent date for which data are available, together with comparable figures for the first world war. The increase in the debt in each financial year since 1939 is given in Table 1.

The composition of the national debt has changed greatly in a number of countries. The last two columns of Table 1 show year by year the kind of borrowing, short- or long-term, to which Governments had recourse; and Diagram 3 depicts the composition of the public debt before the war and in 1944. The most striking feature brought out by the diagram is the marked difference in the composition of national debts as between Continental Europe and elsewhere.[2] In Canada, Australia, New Zealand and South Africa the ratio of short-term debt to total debt has remained almost unchanged at a very low level. All over Continental Europe, on the other hand, short-term issues have risen more rapidly than long- and medium-term issues, with the result that, for instance, at the end of the financial year 1943/44, the short-term debt represented 70% of total debt in France, 67% in Germany, 54% in Finland, 40% in Belgium and the Netherlands. In the United States, the United Kingdom, Sweden and Switzerland the proportion of short-term debt was between 25 and 27%.

The form and method of Government borrowing have been subject to a number of innovations. In order to attract funds from all

[1] It should be noted that total revenue and total borrowing for any one year do not equal expenditures for that year, since varying amounts of current proceeds are kept in the form of cash balances.

[2] The distinction between funded and floating debt is based on the classification of the official statements. In the absence of official classification, debts falling due within a period of less than two years from the date of contracting them have been regarded as floating debt. Debts to the bank of issue have been regarded as floating debt.

Domestic Government Debt

National currencies (000,000's)

Country	1914-1919 Period Covered	Amount Outstanding Pre-War	Amount Outstanding Post-War	Percentage Increase	1939-1944 Period Covered	Amount Outstanding Pre-War	Amount Outstanding Present[1]	Percentage Increase
United Kingdom	Apr. '14-Mar. '19	706	6,189	777	Apr. '39-Mar. '44	7,269	18,455	154
United States	July '14-June '19	2,912	27,391	841	July '39-June '44	45,895	202,626	341
Canada	Apr. '14-Mar. '19[2]	9	1,839	1,043	Apr. '39-Mar. '44	2,832	10,344	265
Australia[3]	July '14-June '19	99	347	251	July '39-June '44	704	1,791	154
New Zealand	Apr. '14-Mar. '19	92	170	85	Apr. '39-Mar. '44	146	366	151
India	Apr. '14-Mar '19	1,457	3,259	124	Apr. '39-Mar. '44	7,170	*14,412	101
South Africa	Apr. '14-Mar. '19	14	41	193	Apr. '39-Mar. '44	178	456	156
Germany	Apr. '14-Mar. '19	5,158	156,452	2,033	Apr. '39-Mar. '44	29,589	*274,025	826
Japan	Jan. '14-Dec. '18	1,195	2,216	85	Apr. '39-Feb. '44	16,557	74,765	352
Italy	July '14-June '19	15,766	60,213	282	July '39-June '44[4]	170,000	*653,000	284
Finland	Dec. '19	.	1,398	.	Jan. '39-Dec. '43	2,835	46,429	1,538
Bulgaria	.	.	.	.	Jan. '39-Dec. '42	8,815	28,464	223
Hungary	Jan. '14-Dec. '19	2,162	17,475	708	July '39-Dec. '42	927	*3,642	293
Roumania	.	.	.	.	Apr. '39-Mar. '42	40,817	*54,261	33
Belgium	Dec. '13-Dec. '19	4,430	17,904	304	Jan. '39-Dec. '43	37,642	116,351	209
Denmark	Apr. '14-Mar. '19	88	523	493	Apr. '39-Mar. '44	835	2,329	179
France	Jan. '14-Dec. '18	33,538	123,794	269	Jan. '39-Dec. '43	420,555	1,333,500	217
Netherlands	Jan. '14-Dec. '18	1,161	2,465	112	Jan. '39-Dec. '43	3,986	10,303	158
Portugal	Jan. '14-Dec. '19	466	1,393	199	Jan. '39-Dec. '43	4,046	7,898	95
Spain	Jan. '14-Dec. '18	9,322	10,315	11	Jan. '39-Sept. '44	22,373	*36,447	63
Sweden[5]	July '14-June '19	648	1,656	155	July '39-June '44	2,634	9,774	271
Switzerland	Jan. '14-Dec. '18	112	1,481	1,222	Jan. '39-Dec. '43	2,753	7,326	166
Turkey	Dec. '19	.	45	.	June '39-Apr. '44	396	1,084	174
Argentine	Dec. '13-Dec. '19	1,238	1,271	3	Jan. '39-Dec. '43	3,287	6,236	90
Chile	.	.	.	.	Jan. '39-Dec. '43	1,512	3,310	119
Colombia	.	.	.	.	Jan. '39-Dec. '42	91	188	107
Brazil	.	.	.	.	Jan. '39-Dec. '43	11,687	23,576	102
Mexico	.	.	.	.	Jan. '39-Dec. '43	260	857	230

* Provisional.

[1] Figures available for more recent dates than those shown in this column are: United Kingdom: March 1945: 21,129; United States: April 1945: 236,224; Germany: December 1944: *345,400; Belgium: January 1945: *196,000; Finland: December 1944: 66,000; France: November 1944: 1,543,517; Italy: October 1944: 675,218; Netherlands: July 1944: 12,103; Sweden: February 1945: 10,756.

[2] Funded debt payable in Canada and temporary loans.

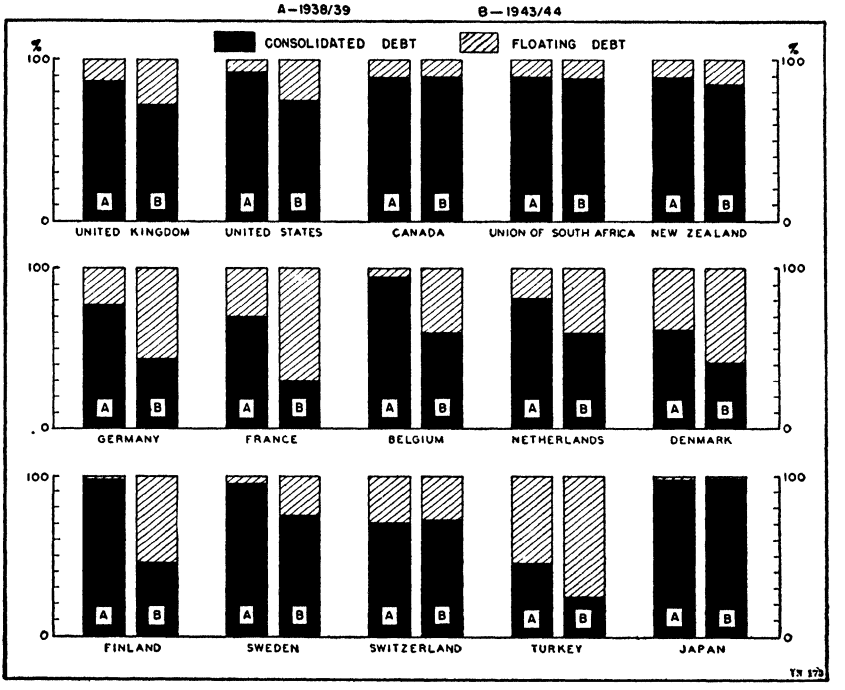
[3] Commonwealth and States.

[4] Excluding indebtedness incurred by the "Fascist Republican Government" in 1943-44.

[5] Including bonds payable in foreign currencies.

Diagram 3

Composition of Government Debt in 1938 and 1944



possible sources, a great variety of securities have been offered to investors: they include non-marketable war savings bonds, which aim at stimulating saving especially by the lower income groups;[1] tax certificates which absorb funds held in readiness for tax payments; Treasury deposit receipts (in the United Kingdom and Canada) in which the commercial banks can invest their liquid funds; in Germany "business-investment deposits" by which the Treasury can absorb the liquid funds of all classes of business; non-marketable long-term securities issued to savings banks, insurance companies and social security funds (such as the "liquidity loans" in Germany and "special issues" in the United States); loans with lottery features, etc. The issue of Government securities in the form of bearer bonds or inscribed stock was suspended in the United Kingdom in 1941, and since then the new issues have all been in the form of registered

[1] Of the 1939 to 1944 increase in the United States debt, about 21% was composed of savings bonds, while about 14% of the increase in internal United Kingdom debt was composed of savings certificates and defence bonds.

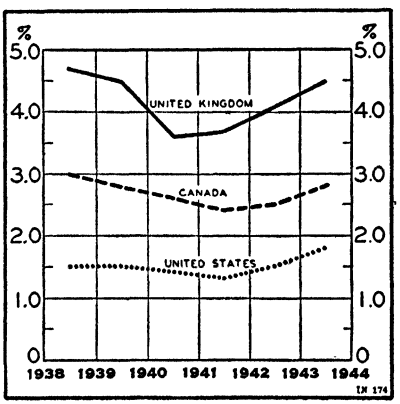
stock transferable by deed. In Germany, the issue and transfer of Reich loans are made exclusively by book entries in the Reich Debt Register.

There are several examples of countries which in 1943 and 1944 were borrowing above their current needs in order to absorb excess purchasing power. In Sweden, the National Debt Office issued Treasury bills for the use of the Riksbank in its open market operations; in Portugal, the proceeds of loans issued for this purpose were placed to the account of the Treasury at the Bank of Portugal. In Denmark, where the sums required to finance the clearing claims against Germany and to cover the occupation costs were provided directly and in full by the National Bank, the Government has since 1942 issued special loans, the proceeds of which are transferred to a blocked account of the Ministry of Finance with the National Bank. In France, a 3% perpetual "Liberation Loan" was floated in November 1943 for the purpose of reducing the note circulation; of the total 162,000 million which the loan yielded in Metropolitan France, 72,000 million were subscribed in notes by the public.

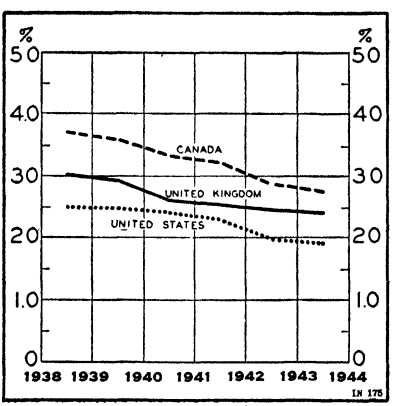
The burden of the debt depends not only on its size, but also on the rate of interest and the size of the national income. In the United Kingdom, the United States and Canada, the national income, and with it the capacity for servicing the debt, has more than doubled since the beginning of the war. And the annual interest payments in 1943 constituted a smaller proportion of national income than they did before the war in both the United Kingdom and Canada. In the

Diagram 4

Interest Service on Government Debt as Percentage of National Income.



Computed Rate of Interest on Interest-bearing Government Debt.



United States there was a slight increase from 1.5% to 1.8%, but the latter figure remained well below the ratios in the United Kingdom and Canada in 1943, which were 4.5% and 2.8%, respectively (See Diagram 4). In Australia the debt service is now equivalent to about 5½% of the national income, as compared with 7% in 1935.[1]

The computed interest rate on interest-bearing debt declined almost everywhere. For the three countries covered by the second part of Diagram 4, the sharpest decrease occurred in Canada, but the reductions in the United Kingdom and in the United States, although from a substantially lower pre-war level than in Canada, have also been appreciable. There remains a wide disparity in the average rates for various countries, as may be seen from Table 8:

Table 8

Average Rate of Interest on National Debt (%)

	1938/39	1943/44		1938/39	1943/44
United States	2.5	1.9	Sweden	3.7	3.0
United Kingdom ...	3.0	2.1	Union of South Africa	3.8	3.0
Canada	3.5	2.6	Germany[a]	5.0	3.1
New Zealand	3.5	2.7	Brazil	5.4	3.8
Switzerland	3.6	2.9	Argentine	4.4	4.1
Australia	3.5	3.0			

[a] According to German press reports.

It is of some interest to compare the present annual interest charges with current revenue before the war. This has been done in Table 9 (page 178), which shows the percentage of pre-war revenue which the interest on debt represents. Prices have, however, risen everywhere. A second column has therefore been added showing the percentages obtained after expressing pre-war revenues in current values by multiplying them by the cost of living index.

Absorption of Government Borrowing

Over-all estimates of the absorption of Government debt inside and outside the banking system are regularly compiled only in the United States. However, for a number of countries, it is possible to ascertain, approximately in any case, the proportion of Government debt taken up by the banking system. Table 10 shows the results for fourteen countries.

The proportion of debt absorbed by the banking system is by far the highest in Japan, where, indeed, it amounted to almost the whole of the total. In Japan Government bonds are taken up in the first place

[1] Budget Speech, 1943/44.

Table 9

Annual Interest Payments as Percentage of Pre-war Current Revenue[a]

	Fiscal Year	Unadjusted	Adjusted
Australia	1943/44	74	60
United States	1944/45	73	57
Germany	1943/44	57	51
Canada	1944/45	58	49
New Zealand	1944/45	48	42
United Kingdom	1944/45	42	32
Argentina	1944	30	28
Switzerland	1943	39	26
Union of South Africa	1943/45	31	25
India	1944/45	43	19
Colombia	1943	25	18
Finland	1943	33	16
Sweden	1943	18	12
Denmark	1942/43	14	9
Chile	1943	11	5
Italy	1943/44	62	.
France	1944	51	.
Belgium	1944	42	.

[a] The figures of interest payments used in calculating the ratios are those for fiscal year indicated in the first column; those of pre-war revenue refer to 1938 or 1938/39. For Germany, no budget figures are available, but on the total debt of 335,000 million Reichsmarks at the end of 1944, an average rate of interest of 3% would give an interest cost of more than 10,000 million, or about 57% of the pre-war ordinary revenue, or 51%, after allowing for changes in the official price level.

by the Bank of Japan, which then sells them to other banks and institutions. A Financial Control Association established in 1942 prescribes, in conjunction with the Bank of Japan, the amounts to be saved by various institutions at regular intervals, and allocates Government bonds accordingly. The smallest proportions are held in New Zealand and Switzerland—in both cases under 25%—and in the United Kingdom. The British figures in the table, refer only to the London clearing banks. The total proportion would, however, be raised only slightly above 25% if the holdings of Government securities by other joint-stock banks were taken into consideration. In Canada, Sweden and the United States, less than a third is held by the banking system. No figures for commercial bank holdings of Government securities are available for France or Italy, but in both these countries, as also in Turkey and Finland, more than a third of the total debt outstanding is held by the central bank alone; in France, indeed, the proportion at the end of 1943 amounted to almost 45%.

In the United States, the tremendous acceleration of war expenditure in 1943 entailed borrowing on a vast scale from the banking system. The declared policy of selling the largest practicable amount

Table 10

Absorption of Government Debt

National Currencies (000,000's)

			Increase in Bank Holdings				
			Central Bank		Commercial Banks		
		Increase in internal debt (Table 1, col. *d*)	Direct claims on Govt. plus Govt. securities	% of Debt absorbed	Govt. Securities	% of Debt absorbed	Total % of Debt absorbed
		(a)	(b)	(c)	(d)	(e)	(f)
United Kingdom[1]	Apr. '39-Mar. '44	11,186	951	8.5	1,811	16.2	24.7
United States[2]	July '39-June '44	155,523	12,350	7.9	52,803	33.9	41.8
Canada	Apr. '39-Mar. '44	7,511	1,075[3]	14.3	1,273[3]	16.9	31.2
Australia	July '39-June '43	708	234	33.0	87	12.3	45.3
New Zealand	Apr. '39-Mar. '44	220	26	11.8	26	11.8	23.6
Germany	Apr. '39-Mar. '44	244,512	32,879[3]	13.4	.	.	.
Japan[4]	Apr. '39-Mar. '43	39,219	6,030	15.4	32,251[3]	82.2	97.6
Italy	July '40-June '43	242,014	85,517[5]	35.3	.	.	.
Finland	Jan. '39-Dec. '43	42,464	16,410	38.6	8,743	20.6	59.2
Belgium	Jan. '39-Dec. '43	78,709	10,955	13.9	25,032	31.8	45.7
France	Jan. '39-Dec. '43	912,945	407,783	44.6	.	.	.
Sweden	July '39-June '44	7,140	393[3]	5.5	1,723[3]	24.1	29.6
Switzerland	Jan. '39-Dec. '43	4,573	—	—	1,132	24.7	24.7
Turkey	June '39-Apr. '44	688	243	35.3	254	36.9	72.2

[1] Col. *d*: London Clearing Banks.
[2] Col. *a*: Interest-bearing debt only.
[3] Calendar years 1939-43.
[4] Col. *d*: Ordinary, special and savings banks, trust companies and Treasury Deposit Bureau.
[5] Calendar years 1939 to July 20th, 1943.

Table 11

Ownership of United States Government Debt[a]

	Increase (or decrease) in fiscal years ending June 30th $(000,000,000's)				Increase during the 2nd half of	Total outstanding on December 31st	Percentage of total
	1941	1942	1943	1944	1944	1944	
Banking System:							
Federal Reserve Banks	—.3	.5	4.6	7.7	4.0	18.9	8.2
Commercial Banks	3.5	6.3	26.0	16.0	9.1	77.5	33.7
Other investors:							
Mutual Savings Banks	.3	.5	1.4	2.0	1.0	8.3	3.6
Insurance Companies	.5	1.9	3.9	4.0	2.3	19.6	8.5
Government Agencies[b]	1.4	2.1	3.7	4.8	2.6	21.7	9.4
All others	1.4	10.5	23.3	27.1	10.4	84.4	36.6
Total Interest-Bearing Debt	6.8	21.8	63.0	61.6	29.4	230.4	100.0

[a] Including securities guaranteed by the U.S. Government.
[b] Represents mainly social security taxes invested in special Government issues.

of Government securities to non-bank investors resulted, however, in a reduction in the banks' purchases in 1944. Changes in the ownership of the debt by principal holders are shown in Table 11, on the preceding page.

No similar compilation is available for the United Kingdom. It is, however, interesting to compare the increase in domestic debt with certain bank holdings which consist almost entirely of Government paper:

Table 12

United Kingdom: Increase in National Debt and in Certain Bank Holdings

£(000,000's)

Apr. 1st-Mar. 31st:	1939/40	1940/41	1941/42	1942/43	1943/44	1944/45
Domestic Government Debt	782	2,467	2,566	2,627	2,745	2,830
Bank of England[a]	313	36	223	164	215	156
London Clearing Banks[b]	146	433	305	501	408	428

[a] Government securities in Issue and Banking Departments and "Other securities" held by the Banking Department.

[b] Call loans (mainly to the discount market for investment in Treasury bills), discounts (mainly Treasury bills), Treasury Deposit Receipts, and "Investments."

Even allowing for the fact that the eleven London Clearing Banks are not the only commercial banks in the United Kingdom, it is apparent that the British banking system participated in absorbing Government borrowing to a smaller extent than banks in the United States. A special factor accounting for the large subscriptions of non-bank investors to issues of Government loans was the liquidation of foreign assets; the funds received by private investors in exchange for foreign securities surrendered to the Government were as a rule reinvested in domestic Government securities. Moreover, large amounts of the floating debt were taken up by sterling area central banks.

An indication of the distribution of the ownership of the United Kingdom Government debt was furnished on January 16th, 1945, by the Chancellor of the Exchequer. The total net amount borrowed by the Government from the outbreak of war down to December 31st, 1944, including borrowings to redeem pre-war debt held outside official accounts, was £13,975 million; and this sum was subscribed to by:

	£(000,000's)
Small savings	3,033
Subscriptions to public issues (other than floating debt) from non-official sources	4,609
Floating debt from non-official sources (including Treasury deposit receipts)	4,347
Tax reserve certificates	760
Extra-budgetary official funds	818
"Other" debt, including borrowings abroad	408
	13,975

As there are strict limitations on the absolute amount of savings certificates and defence bonds which may be held by any one subscriber, the large aggregate of "small savings" must have been very widely distributed.

In Germany, a large part of the newly issued Treasury bills and non-interest-bearing Treasury bonds are permanently held by the Reichsbank. The holdings of commercial banks cannot be ascertained because of the lack of banking statistics. Unofficial German calculations,[1] however, indicate that more than 15% of the total Government borrowing up to the end of 1942 was subscribed from foreign sources (through loans from the Reichskreditkasse and through Treasury bills placed directly with the central and commercial banks in the Netherlands, "Bohemia and Moravia" and elsewhere), and that slightly less than 85% was placed inside Germany. Out of the amount placed internally, the banking system is said to have taken 36%, the savings banks 39%, and the insurance companies 12%, leaving only 13% to be placed on the market. The proportion taken by banks and insurance companies together, which according to these figures would be about 87% of the total, was in fact still higher, since part of the purchases on the market were also made on their account.

Similarly, all the available information concerning the absorption of Government borrowing in the rest of Continental Europe suggests that the public has taken up a comparatively small proportion of long-term war loans. The greater part of the increase in the public debt has been financed by central and commercial banks and institutional investors such as social insurance funds and private insurance companies.

Forced Government loans have been raised in southeastern Europe, Italy, Finland, China, and elsewhere. In the Netherlands the banks and the wealthier classes of the population were on several occasions threatened with a compulsory loan on unfavourable terms should voluntary subscriptions to loan issues be inadequate. Private debt redemption has been encouraged in a number of countries and at the same time the banking institutions to which loans were repaid have

[1] *Bankwirtschaft*, 1943, Nos. 5 and 13.

been obliged to earmark the incoming funds for the purchase of Government securities. Measures of this kind for accelerating the amortization of agricultural indebtedness have been taken in Hungary, Roumania, Bulgaria, Denmark and Germany. In the United States restrictions on consumer credit have been enforced since May 1942 by the Board of Governors of the Federal Reserve System as part of a policy aimed at increasing the amount of funds available for investment in Government securities. As a result, the volume of instalment loans outstanding was reduced from $9,959 million in December 1941 to $4,878 million in February 1944; the amount outstanding increased, however, to $5,811 million in December 1944.

The proportion of debt taken up by the central banks and by the commercial banks depends of course, in part, on the organization of the banking system, which varies from country to country. In general it appears that in Continental Europe, where the public prefers to keep considerable amounts of money in the form of cash rather than of bank deposits, Governments have borrowed extensively from the bank of issue. In such countries as the United States, the United Kingdom and the British Dominions, where the public is accustomed to hold a far higher proportion of its money in the form of bank deposits, Governments have borrowed to a greater extent from the commercial banks, the central banks' lending to the Government being mainly designed to furnish the commercial banks with sufficient reserve balances. These differences are reflected in the increase in note issues as compared with commercial bank deposits, which will be shown in a subsequent section of this chapter.

The part played by central and commercial banks in financing Government requirements has led to changes in central bank statutes and practices. The legal limits on direct lending to the Government by central banks have been raised in many countries. In France, the limit on the volume of advances to cover occupation costs was raised by steps from 50,000 million francs in 1940 to 426,000 million in 1944; the limit on provisional advances to the Government, which remained unchanged from 1940 to 1943, was increased from 70,000 million to 100,000 million in 1944 but, largely as a result of the Liberation Loan, this amount fell from 74,550 million in August 1944 to 15,850 million at the end of 1944. In most other countries, Government borrowing took the form of sales of Treasury bills or other Government securities, and where necessary, formal authorization was given to the central bank to acquire Government paper in unlimited quantities. In the countries occupied by Germany, changes in central bank laws were made by the German occupation authorities; thus in the case of the Netherlands Bank the authorization to buy long-term Government securities, along with other drastic changes

in the Bank's statutes, was decreed in June 1943 by the German authorities who took over the direction of the Bank.

Several countries adopted legislation obliging commercial, savings and mortgage banks to keep part of their assets in the form of Government securities. This was notably the case in southeastern Europe; but similar steps have also been taken in Italy. In Australia, the Commonwealth Bank was empowered, under the National Security Regulation of 1941, to regulate the investment and loan policy of the commercial banks.

In countries with highly developed banking systems, the monetary authorities have taken steps to increase the reserve balances of the commercial banks so as to enable them to subscribe to Government loans. In the United Kingdom, the banks' cash-to-deposit ratio has remained remarkably stable at the traditional level of 10-11%, in spite of the large increase in deposits resulting from their purchases of Government securities. Since in 1943 and 1944 there has been among these purchases an increasing proportion of short-term Treasury Deposit Receipts, which are now the largest item among the assets of the clearing banks, the ratio of "quick assets" to total deposits increased from the traditional 30% to over 50%. In the United States the minimum reserve requirements for commercial banks were lowered in 1943 for the banks in the central reserve cities of New York and Chicago, and borrowing by member and other banks was made cheaper. The principal form of intervention by the Federal Reserve Banks was, however, open-market operations.

In a number of other countries the opposite policy has been followed: the authorities have conducted open-market operations or have taken other measures designed to absorb an excess of liquid funds on the money and capital markets. In Sweden, the Riksbank obtained 500 million kronor of Treasury bills from the National Debt Office for sale on the open market, and used for the same purpose 600 million kronor of Government securities which it had received before the war in exchange for foreign assets turned over to the Government. In the Argentine, the Central Bank, in order to neutralize the effects of the increase in gold and foreign exchange reserves, placed certificates of participation with the commercial banks, and from 1942 onwards with other investors. In 1943 the total volume of funds absorbed rose from 139 million to 729 million pesos. In Australia, the National Security Act of 1941 required the commercial banks to keep in a special account at the Commonwealth Bank at ¾% interest a certain part of their surplus investible funds to be prescribed by the Bank in accordance with a plan approved by the Commonwealth Treasurer. The Commonwealth Bank invests the monies received from the commercial banks in Government securities, and it is partly on account of this arrangement that it has, as is

shown in Table 10, absorbed so large a proportion of the Government's borrowings. Changes in the legal reserve requirements for commercial banks have also been made in Colombia, again with the purpose of absorbing liquid funds; and in Ecuador commercial and savings banks were required in July 1943 to keep certain specified proportions of their deposits in the form of non-transferable gold certificates issued by the Central Bank. In Uruguay, credit institutions were obliged in 1944 to hold 32% of their sight liabilities in gold, cash, public securities or sight deposits with the Central Bank, and 16% in long-term assets, the proportion of Government securities not exceeding 40% of the cover. Among the countries occupied by Germany, Denmark introduced a comprehensive anti-inflation programme in 1942, and as a part of this policy, commercial banks were obliged to keep minimum cash reserves.

The large increase which has taken place in central and commercial banks' holdings of Government securities has naturally greatly affected the composition of their total assets. The following table shows

Table 13

Government and Non-Government Assets as Percentage of Total Central Bank Assets

	Direct claims on Government and Government securities		Non-Government loans, advances, discounts and securities	
End of:	1938	1944	1938	1944
Argentine	31	20	—	—
Australia	63[a]	63[a]	10	3
Belgium	7[a]	20[ad]	5	—
Bolivia	72	35[c]	5	12[c]
Canada	46	89	—	—
Chile	62	18	21	33
Colombia	29	17	25	9
Egypt	24	50	27	11
Finland	10[a]	86[ab]	22	—
France	26	81	10	4
Germany	81	96	3	—
Japan	53	54[e]	15	25[f]
Mexico	10[a]	59[a]	20	15
New Zealand	71[a]	47[a]	2	—
Peru	66	74[b]	1	1[b]
Roumania	38[a]	25[af]	25	22[f]
Spain	12	71[b]	44	13[b]
Sweden	5[a]	31[a]	2	1
Turkey	54[a]	32[a]	30	42
United Kingdom	45	99	7	2
United States	17	49	—	—
Yugoslavia-"Croatia"	81[g]	73[c]	—	—

[a] Including "other" securities. [b] November. [c] September. [d] August.
[e] March. [f] June. [g] April 1943.

the percentage distribution of Central Banks' assets in a number of countries.[1]

It will be seen that Government securities account for almost the whole of central bank assets in Germany and Finland, for 96% in Canada, 84% in France, 64% in Australia, 54% in Japan and 56% in New Zealand. In the United States, Government securities accounted for almost one-half of the assets of the Federal Reserve Banks.

Similarly, Government securities, including Treasury bills, constitute an increasing proportion of commercial bank assets. In the United Kingdom, in December 1944, Treasury Deposit Receipts were the most important single item in the combined balance-sheets of the London clearing banks. "Investments" ranked second, while advances had fallen to third place. Since short-term loans are almost wholly secured by Treasury bills, and since the banks' bill portfolios are made up of Treasury bills, the proportion of deposits covered by Government paper had by December 1944 risen to 70%. In the United States, Government security holdings accounted for over 70% of the total earning assets of all commercial banks, in France, Belgium, and Germany for about 70%, in Canada about 50%, etc.[2]

Conversely, there has been a marked decline in commercial bank advances. In the United Kingdom, the ratio of advances to deposits, which was 45.5% before the war, had fallen to 16.6% by December 1944. In Germany, the total of "debtors" of the big Berlin banks fell in 1943, in spite of the increasing demand for credit due to the abolition of Treasury advances on Government orders. In the United States, commercial, industrial and agricultural loans for non-war purposes declined from $9,400 million to $5,750 million between December 1941 and June 1944, while loans for war purposes increased from $1,300 million to $3,150 million.

The Latin-American countries are an exception to the general tendencies just noted and commercial financing has generally increased. In Brazil, for example, loans of the Bank of Brazil to manufacturing industries were 60% higher in 1943 than in 1942. But a large part of the discounts and advances of Latin-American central banks consisted of operations on account of Government or semi-official institutions. In the Argentine, the Government has borrowed from the Banco de la Nación and other banks to finance the purchase of crops (994 million pesos were outstanding in 1943), and part of this debt was taken over by the Central Bank. In Chile, the total advances made by the Central Bank to semi-public credit institutions specializing in industrial, mining and agricultural credit,

[1] For further details, see *Money and Banking 1942/44* (League of Nations).

[2] The percentage composition of commercial bank assets in 45 countries is shown in *Money and Banking, 1942/44.*

increased from 111 million pesos in 1938 to 575 million pesos in 1943.

All over South America new banking institutions have been established under Government auspices, with the object of granting loans for development purposes. The capital of these banks has been as a rule provided partly or wholly by Governments or central banks. Similarly, in Australia a Mortgage Bank was established as a Department of the Commonwealth Bank to make long-term loans to primary producers, the capital being provided by the Commonwealth Bank; and in Canada a law founding an Industrial Development Bank was passed in August 1944. In the United Kingdom, the establishment of two financial institutions was officially proposed in January 1945: a Finance Corporation for Industry, to be owned jointly by a group of insurance companies, investment trusts and the Bank of England, for the purpose of providing long-term capital to industrial business "with a view to their quick rehabilitation and development in the national interest";[1] and an Industrial and Commercial Finance Corporation whose capital is to be subscribed by all the important deposit banks, together with a "token subscription" by the Bank of England, to meet the medium- and long-term credit needs of small and medium-size business.

Gold and Foreign Balances

In addition to expanding total domestic output and devoting an increasing part of it to war purposes, the major belligerent countries have drawn on the production of other countries, either for armies maintained abroad or for military bases or for domestic use, by importing in excess of current exports. The excess of imports, and the other expenditures abroad, have been financed in a variety of ways: by the liquidation of foreign investments, gold transfers, lend-lease and similar arrangements, the accumulation of new debts, and the levying of occupation costs. British disinvestment is dealt with in Chapters I and VI, and the latter chapter contains an account of lend-lease and mutual aid, international short-term borrowing and occupation levies. We are concerned here only with the changes which have taken place in central gold and foreign exchange reserves. The increase in money incomes due to foreign spending has had effects on national prices and currencies which are essentially similar to those produced by domestic government expenditure financed by domestic borrowing.

Recorded central gold reserves are shown in Table 14.[2] The major changes have been as follows: From the beginning of the war to

[1] Chancellor of the Exchequer, *Parliamentary Debates*, January 23rd, 1945.

[2] A more detailed table is given in League of Nations, *Money and Banking 1942/44*.

Table 14

Recorded Central Gold Reserves

Country	1938	1939	1940	1941	1942	1943	1944
			U.S. $(000,000's)				
Africa	*289*	*318*	*435**	*438**	.	.	.
Union of South Africa	220	249	367	367	634	705	814
Others	69	69	68*	71*	.	.	.
North America	*14,704*	*17,859*	*22,002*	*22,742*	*22,731*	*21,943*	*20,625*
Canada	192	215	7	5	5	5	6
United States[1]	14,512	17,644	21,995	22,737	22,726	21,938	20,619
Central and South America	*706*	*751*	*683*	*722*	*1,100**	*1,800**	*2,100**
Argentine	431	466	353	354	658	939	1,112
Brazil	32	40	51	70	115	254	320
Chile	30	30	30	30	38	51	56
Colombia	24	21	17	16	25	59	92
Mexico	29	32	47	47	39	203	222
Uruguay	68	68	90	100	90	118	151[a]
Venezuela	52	52	51	51	68	89	130
Others	40	42	44	54	67	82	.
Asia	*563*	*600**	*660**	*750**	.	.	.
Europe	*8,900**	*5,950**	*5,000**	*5,200**	*5,500**	*5,850**	*5,900**
Belgium[1]	728	714	734	734	735	734	732[b]
Czechoslovakia	83	56	58	61	61	61	61[a]
Denmark	53	53	52	44	44	44	44
Finland	*25*	*27*	14	4	4	4	4[c]
France[1]	2,430	2,709	2,000	2,000	2,000	2,000	1,777
Germany	45	43	40	40	40	40	.
Italy	193	144	120	.	.	.	.
Netherlands	998	692	617	575	506	500	500[d]
Roumania	133	153	157	183	243	318	369[e]
Spain	(525)[f]	.	.	42	42	91	105*
Sweden	321	308	160	223	333	387	463
Switzerland	701	549	502	665	824	964	1,052
Turkey	29	29	88	92	114	161	221[d]
United Kingdom[1]	2,690	.	.	.	.	.	.
Others	433*	426*	430*	550*	550*	550*	590*
Oceania	*25*	*25*	*25*	*25*	*25*	*25*	*25**
Australia	2	2	2	2	2	2	.
New Zealand	23	23	23	23	23	23	23
Total (excl. U.S.S.R.)[2]	25,200*	25,500*	28,800*	29,900*	30,800*	31,200*	30,300*

* Provisional figure.

[a] November. [b] January 1945. [c] September. [d] October. [e] June. [f] April.

[1] Not including gold held in Exchange Equalization and similar funds which amounted to:

	1938	1939	1940	1941	1942	1943	1944 Sept.
United States	80	156	48	25	12	43	25
Belgium	44	17	17	17	17	.	.
France	331	477[a]	.	.	.	.	.
United Kingdom	759[b]	876[c]	292	151[d]	.	.	.

[a] May 1939. [b] September 1938. [c] August 1939. Total gold holdings as reported less those held by the Bank of England. [d] September 1, 1941.

[2] Excluding Spain in 1938.

1941 the gold reserves of the United Kingdom and, up to June 1940, of France, declined substantially, while those of the United States and, to a smaller extent, of Latin America, increased. By the beginning of 1941 the British gold reserve had been virtually exhausted; and the United States' monetary gold stock reached its peak at 22,800 million dollars in November 1941. About the middle of 1941 Latin America started converting into gold part of the dollar balances accruing from United States' purchases of strategic materials and from other expenditures for war purposes, and this process of adding to gold stocks was considerably accelerated after the end of 1942. In December 1944, the total gold holdings of Latin America, as shown in the table, were nearly three times as great as they had been in 1938 and, after adjustment for the change in the dollar price of gold, they were about 25% above the gold holdings in 1929. The country holding the largest reserve in Latin America is the Argentine. The largest percentage increase during the last three years occurred, however, in Brazil, which country lost virtually all its gold in 1930, and now has a reserve equal, in quantity, to what it had in 1929. The holdings of Chile and Uruguay are also about equal to the amounts held in the 1920's, while those of Mexico, Venezuela and Colombia are greater than they have ever been in the past.

In Continental Europe, Sweden and Switzerland have increased their gold holdings, partly by converting their foreign balances, and partly through current receipts. The Turkish resources have also increased steadily as have the disclosed gold reserves of Spain in the last two years. Roumania was able to obtain some gold in exchange for part of her claims on Germany, and more than doubled her reserve. Part of the reserves of certain countries under German occupation and also part of the Italian gold reserve have been transferred to German account. The loss incurred by the Netherlands was under the guise of "voluntary" contributions to the war effort. Early in 1944 the British and the United States Treasuries declared that they would not recognize transference of title to looted gold.

The production of gold has declined sharply in recent years; the world output in 1944 may be estimated, on the basis of the production of the reporting countries, at about 10% less than in 1943 and approximately one-third less than the peak year, 1940. But, as is apparent from Table 15, the rate of decline varied greatly from one area to another. In the United States, Canada, Australia and British West Africa, the governments restricted the mining of gold in order to release manpower for war production. In South Africa the volume of production was affected by shortages of labour and equipment and, as in other countries also, by higher working costs.

As a result of recent developments, the distribution of the world's visible gold reserves has undergone important changes. The scope

Table 15

Value of World Gold Production

	1938	1939	1940	1941	1942	1943	1944
Africa	511	542	590*	600*	575*	520*	.
Un. of South Africa	426	449	491	504	494	448	430
North America	315	343	356	354	291	176	137*
Canada	165	178	186	187	169	128	102*
United States	149	164	169	166	121	48	35
Central America	38	35*	41*	40*	.	.	.
South America	55	61*	66*	65*	55*	50*	.
Asia	117	125*	.	.	.	.	.
Oceania	73	78	79	73*	.	.	.
Australia	56	58	57	52	40	26	16
Europe	21	20	.	.	.	.	.
World (excl. U.S.S.R.) ...	1,130	1,205	1,290*	1,280*	1,150*	950*	850*

* Provisional.

and nature of these changes are shown in Table 16, page 191, which summarizes the data covered in Tables 14 and 15.

During the three years 1942-44 the United States gold stock fell by $2,118 million, while the visible gold reserves of the rest of the world increased by $2,500 million. Besides absorbing the gold outflow from the United States, the rest of the world also absorbed a substantial part of the newly-mined gold. The most important producer, South Africa, has been selling a part of the current output to Great Britain and adding the rest to her own gold stocks. Only part of the gold absorbed outside of the United States appears in the recorded reserves. As is shown in Table 16, page 191, visible world holdings (line 3) actually declined in 1944, and their increase in 1942 and 1943 fell short of the current gold production. The last line in the table represents the difference between the somewhat uncertain figures of gold production and the recorded totals of visible reserves. It is thus a residual item covering errors in the figures, consumption of gold in the arts, sales of gold to the public, and transfer between visible or invisible monetary stocks. The shift from visible to invisible reserves in 1939 owing to the internal transfers from Central Banks to Stabilization Funds in the United Kingdom and in France no doubt explains the direction of the figures in that year, and the change in the opposite direction in 1940 is to be explained largely by the inflow of gold to the United States from the United Kingdom. Since 1942 an increasing part of newly-mined gold and of gold flowing out from the United States has again "disappeared" from recorded world reserves.

Some gold was absorbed by official sales of gold by the United Kingdom and the United States, either separately or jointly, to the public in India and the Middle East, but the amount involved was

Tables 16

Changes in World Gold Distribution

$(000,000's)

Changes in recorded reserves:	1939	1940	1941	1942	1943	1944	Total 1942-1944
1. United States	+3,132	+4,351	+742	—10	—789	—1,319	—2,118
2. Rest of the world[a]	—2,832	—1,051	+358	+911	+1,189	+419	+2,518
3. World (1+2)[a]	+300	+3,300	+1,100	+900	+400	—900	+400
Sources of changes:							
4. Production[a]	1,205	1,290	1,280	1,150	950	850	2,950
5. Industrial consumption, private hoarding and shifts from invisible to visible (+) and from visible to invisible reserves (—)	—905	+2,010	+180	—250	—550	—1,750	—2,550

[a] Excluding U.S.S.R.

very small in comparison with the "balance" shown in the table above. The purpose of these official sales, which began in the middle of 1943, was to mop up redundant purchasing power and at the same time to reduce the growth of sterling or dollar balances. As a result of this procedure, the price of gold, which had risen steadily throughout 1942 and had reached a peak in May 1943 at about $78 per ounce in Bombay, fell gradually in the latter part of 1943 and in 1944. In October 1944 the price in Bombay was $50 per ounce. In June 1944 sales of gold were suspended in Egypt and Iraq because, with the reduction in spending by the Allied Governments in these territories, the need for them had considerably diminished. Open sales of gold were also arranged in China, where the price reached a figure of more than 500 U.S. dollars per fine ounce in the middle of 1944. In Mexico, gold was sold to the public by the central bank. In Greece, gold sovereigns were made available to the public through market sales by the Bank of Greece in order to promote confidence in the new currency; the price, fixed at 2,400 new drachmae to the gold pound in November 1944, is kept flexible in accordance with the prevailing gold prices in the Mediterranean area.

The prices at which gold was sold to the public in the countries mentioned involved in most cases a considerable premium above the official gold prices or the prices corresponding to the official rates of exchange. The existence of the premium offered by the public for gold in these countries was the result of a combination of circumstances: the rise in the level of commodity prices in the countries

concerned, a rise in which gold, as a commodity for which there is a hoarding demand, has shared; the lack of a free international market in which unlimited quantities of gold would be able to flow to the place where it obtained the highest price; the maintenance, despite the uneven movements of price levels, of fixed exchange rates between the currencies of the countries selling gold on the one hand and the currencies of the countries buying gold on the other.

In most countries (*e.g.*, Egypt and Mexico) the gold sales have been made by the United Kingdom and the United States to the central banks of the countries concerned at the official price, and where these central banks have resold part or all of the gold to the public they have done so on their own account and have reaped the profits due to the premium. In the case of India and Iran, however, the sales to the public, though made largely through the agency of the central banks, were made on account of the United States and United Kingdom Governments so that these Governments took the profits. In the latter case, the proceeds in terms of rupees of a given number of pounds sterling or U.S. dollars, by first being converted into gold (whether taken from existing reserves or from gold bought from South Africa out of new production) and then changed into rupees, have been that much higher than would have been the proceeds of the same number of pounds or dollars added to the balances of India in London. This has been a way of providing a partial offset for the overevaluation of the rupee at the existing price levels and exchange rates. The fact that South Africa was the source of a large part of the gold sold by the United Kingdom to India, and that, as an importer of Indian goods, she was herself affected by the rise in the Indian price level, led to demands that she should share in the gold profits. Early in 1944 the Government of the United Kingdom agreed that South Africa should share in the profits on gold sales to the extent that she imports goods from India.

In addition to acquiring gold, the monetary authorities in many countries outside the United States have accumulated substantial

Table 17

Foreign Banking Funds and Gold Held in the United States

Date	$(000,000's) Total (*a*)	"Official" (*b*)	Private (*c*)	Gold Under Earmark (*d*)	Total "Official" Funds and Gold (*b*+*d*)
1942, April	3,546	1,172	2,374	2,449	3,621
Dec.	3,988	2,027	1,961	2,674	4,701
1943, June	4,670	2,689	1,961	3,070	5,759
Dec.	5,154	3,099	2,055	3,477	6,576
1944, June	5,509	3,299	2,210	3,712	7,011
Dec.	5,271	3,010	2,261	3,937	6,947

amounts of dollar exchange. The accompanying statement shows the volume of funds and earmarked gold held in the United States for the account of foreign banks.

At the end of 1944, the total of funds and gold held by Central Banks and Treasuries amounted to more than $7,000 million, half of which had been acquired during the last two years. In addition, private funds amounted to more than $2,000 million.

Tables 14, 16 and 17 give a global picture of the size of official gold and dollar reserves held outside the United States:

	U.S. $ (000,000,000's)	
1. Recorded central gold reserves (Table 14):		
World (excl. U.S.S.R.)	30.3	
Less: United States	20.6	
World outside the United States	9.7	9.7
2. Shifts from visible to invisible reserves in 1942-44 (Table 16, item 5)		2.9
3. Official banking funds in the United States (Table 17, col. *b*)		3.0
		15.6

The total of $15,600 million may be considered as a conservative estimate, since, with the exception of the shifts from visible to invisible reserves in 1942-44, no allowance is made for undisclosed gold stocks. The *Federal Reserve Bulletin* gives a total of $17,000 million of gold and dollar reserves of "foreign countries" (*including* U.S.S.R.) at the end of September 1944, as compared with $7,000-8,000 million at the close of the 1920's.[1] To the official holdings of gold and dollar balances may be added private banking funds held in the United States, as given in Col. *c* of Table 17. This would raise the total of gold and dollar balances held by the world outside the United States to some $19,000 to $20,000 million.

The geographical distribution of the ownership of foreign funds held in the United States has not been disclosed since December 1941. It may be surmised that, in view of the volume of United States spending in Latin America, a large part of the increase is held by Latin-American Central Banks. The dollars spent in French North Africa and in France have accrued to the French monetary authorities, and those spent in Australia, India, and the Middle East (with the exception of Iran) to the central sterling area "pool."

[1] November 1944, page 1043. The following comment from the *Federal Reserve Bulletin* may be quoted in this connection: "Foreign countries will enter the post-war period much better supplied with gold and dollar reserves than they were before the breakdown of the gold standard in the 1930's. As a group they will be able to meet larger deficits in their international transactions with the United States, should such deficits occur, without resorting to currency depreciation or exchange control or drastic measures of internal deflation."

All the countries belonging to the "sterling area" pool their foreign exchange resources. Supplies of dollars accruing from exports to the United States, or from the expenditures of U.S. troops, are transferred to the central fund in London and are then allocated to various uses, and to various members of the sterling area, in the proportions considered most beneficial from the standpoint of the total war effort. The foreign balances which the countries in the sterling area have acquired during the war are thus all held in sterling. In February 1944 it was announced, however, that the British Government had agreed that part of the dollar balances accruing from U.S. purchases and military expenditures in India (London's largest creditor) should be set aside for India's use after the war; and in January 1945 the United Kingdom agreed to make available to Egypt £E 25 million of "hard" currencies during 1945 to cover the need for imports from and payments to the United States and other countries.

With a few exceptions (the most important being the Argentine) the composition of central bank foreign exchange holdings has not been disclosed in recent years. The figures for net foreign assets of Latin America, as they appear in official statements, have been con-

Table 18

Foreign Exchange Holdings of Latin America

U.S. $(000,000's)

End of:	1938	1939	1940	1941	1942	1943	1944
Argentine[1]	.	.	.	.	18	82	92
Bolivia	1	2	8	18	20	17	17
Brazil[2]	141	139	47	149	436	.	246[a]
Colombia	3	3	7	6	36	54	66[b]
Cuba[3]	28	23	21	44	109	181	.
Mexico	3	2	12	6	34	34	38[b]
Uruguay	—	—	3	2	—	34	62[b]
Venezuela	.	.	2	11	8	14	20
Others[4]	4	6	12	21	49	44	63
Total Foreign Exchange	180	175	102	257	710	.	850*
Total Gold Reserves	706	751	683	722	1,100*	1,800*	2,100*
Total Gold and Foreign Exchange Reserves	886	926	785	979	1,810*	.	2,950*

[1] Dollar exchange as shown in Annual Reports of the Central Bank of the Argentine.
[2] Net correspondents and agencies abroad plus bills receivable less bills payable.
[3] Total U.S. currency in circulation in Cuba.
[4] Chile, Costa Rica, Ecuador, Guatemala, Haiti, Paraguay, Peru and Salvador.
[a] *New York Times*, February 11th, 1945.
[b] November 1944.
* Provisional.

verted into U.S. dollars, and a total calculated for the whole of Latin America in Table 18. The Latin-American countries hold some sterling balances, but there is no doubt that by far the largest part of their foreign assets consists of dollars. Aggregate holdings were no doubt greater than the figures shown in Table 18, which cover only central banks and do not take account of commercial bank and other private holdings or of U.S. dollar notes circulating in Central America, shown only in the case of Cuba. It should also be kept in mind that the official rates of exchange used for the conversion may not be those at which the exchange holdings were actually acquired. Latin America's gold reserves and foreign exchange holdings more than tripled between 1940 and 1944. As a result of the accrual of these large amounts of gold and foreign assets, the exchange position of Latin-American countries was strengthened and the free market quotations moved nearer to the official rates of exchange.[1] The free rate for the Argentine peso rose in 1943 to the highest level reached since 1939. At least two countries, the Argentine in 1943 and Uruguay in 1944, introduced measures to restrict the inflow of funds from abroad; import of capital is authorized only if it is to serve permanent productive purposes. Peru established for the first time a system of foreign exchange control in January 1945.

The foreign exchange holdings of European neutrals are shown in terms of their U.S. dollar equivalent in Table 19. Sweden and Switzerland converted part of their dollar balances into gold. Between 1939 and 1944, gold and foreign exchange holdings more than doubled in the five neutral countries. The Swiss authorities, after 1940, placed restrictions on the transfer of dollar balances into Swiss francs, and Sweden tightened the foreign exchange regulations in October 1944 in order to prevent too large an increase in her gold and foreign exchange holdings.

Foreign exchange reserves of sterling area countries are shown in Table 20. The exact composition of the foreign exchange reserves of these countries is not known, but it can be assumed that they consist mainly of sterling. Their increase over the five years 1939-43 (£1,000 million) may be compared with the figure for Britain's external disinvestment (£3,073 million) given in the White Paper on Sources of War Finance. The two forms of Britain's external disinvestment—namely, sale of overseas assets and increase in overseas liabilities—are shown separately in Chapter VI, page 255.

On the basis of the 1938 figures it appears that before the war the sterling area countries held between £250 million and £300 million

[1] Official and free-market quotations are published in the *League of Nations' Monthly Bulletin of Statistics*; and in the *Statistical Year-Book of the League of Nations*, the variations of exchange rates are shown monthly in terms of the gold parities in force in 1929.

Table 19

Foreign Exchange Holdings of European Neutrals

U.S. $(000,000's)

	1938	1939	1940	1941	1942	1943	1944
Portugal	29	26	53	189	368	483	564[a]
Spain[c]	.	.	.	2	2	2	2[b]
Sweden	180	72	179	181	132	155	136
Switzerland	63	81	232	158	14	19	24
Turkey	—12	—28	—1	29	28	47	30
Total Foreign Exchange	260	151	463	559	544	706	756
Total Gold Reserves[c]	1,162*	997*	851*	1,081	1,372	1,663	1,904
Total Gold and Foreign Exchange Reserves	1,422*	1,148*	1,314*	1,640	1,916	2,369	2,660

[a] August 1944.
[b] June 1944.
[c] Spain's gold holdings in 1938-1940 have been estimated at 42 million dollars. The bulk of the foreign exchange reserve is held by the Foreign Exchange Board, and its amount has not been published.
* Partly estimated.

in London, including the amounts known to have been held by commercial banks. Sterling balances serve partly as legal cover for the currency issues in most of these countries, and the currency reserve requirements have increased considerably with the expansion in note circulation. The exchange reserves of most sterling area countries have, however, increased far in excess of what is required for cover purposes. The totals, which are based on recorded data, underestimate rather than overestimate the size of the sterling balances. There are no figures for the reserves of the Middle East countries other than Egypt, Iraq and Palestine[1] or for the currency authorities of the former Governments-in-exile in London.[2] The figures for the colonial currency boards are incomplete and the table does not cover the Latin-American countries. Such figures as are available for the latter are mentioned below. Moreover, the figures for commercial bank holdings are obtainable for only a few countries; the Indian exchange banks, for example, are known to have held considerable amounts of sterling, but the figures have not been disclosed.

The largest single stock of sterling exchange is held by the Reserve Bank of India. It accounts for more than half of the aggregate

[1] Iran's foreign assets were the equivalent of 172 million pounds sterling in March 1944, against 40 million in March 1940; but the amount of sterling held is not known.
[2] For example, balances accumulated on account of shipping services by Norway and, to a lesser extent by the Netherlands, Greece, and Belgium, and balances derived from the proceeds of exports from French, Belgian and Dutch possessions.

Table 20

Foreign Exchange Reserves of Sterling Area Countries

£(000,000's)

	1938	1939	1940	1941	1942	1943	1944
a) Central Banks and Currency Boards							
Australia	30	36	70	48	63	82	150
Egypt	17	20	32	50	78	105	124[a]
Eire	9	9	13	16	21	24	31
Iceland	—	—	2	6	11	16	21[b]
India	46	85	142	217	357	642	935
Iraq	5	6	7	12	22	36	40[c]
Malaya	.	.	23*	58*	58*	58*	58*
New Zealand	4	7	9	10	22	27	28[d]
Palestine[1]	7	9	11	13	23	.	.
Union of South Africa	8	8	1	—	1	13	21[a]
West and East Africa[2]	.	15*	17*	19*	26*	39*	.
Total	160*	230*	335*	450*	685*	1,080*	1,400*
b) Commercial Banks							
Egypt	.	.	.	.	.	(100*)	.
Eire	61	65	69	84	97	115	126[e]
New Zealand	2	6	10	10	11	7	10[e]
Palestine	.	.	6	10	17	26	32[f]
Union of South Africa	10	16	20	26	26	23	20[g]
Total (excl. Egypt)	73	87	105	130	150	170	200
Grand Total	235*	320*	440*	625*	835*	1,250*	1,600*

[a] November 1944.
[b] October 1944.
[c] March 1944.
[d] October 16, 1944.
[e] September 1944.
[f] August 1944.
[g] June 1944.
[1] March 31st of the following years.
[2] As of the middle of the year.
* Estimated.

Sources: Official as compiled in the League of Nations, *Money and Banking 1942/44*, with the exception of those for Malaya and other Currency Boards which are based mostly on the London *Economist* and *Banker*.

official holdings in 1944 shown in Table 20. The growth of this item during the war was retarded by the repatriation of practically all of India's sterling debt of over £350 million, and by official gold sales in the Indian market to which reference was made before in this section. As mentioned earlier, however, part of the Reserve Bank's exchange reserve has been accumulating since February 1944 in the form of U.S. dollars, so that it is no longer strictly accurate to estimate the total of India's sterling assets by converting into sterling the whole of the Reserve Bank's external assets. The growth in Eire's sterling assets represents the excess of the Irish commercial banks' external assets over external liabilities (second part of Table 20) as well as the increase in sterling securities held by the Central Bank of Eire. As there is no sizable Irish debt held in Great Britain, there has been no large-scale debt repatriation. Both Australia and

New Zealand have substantially increased their sterling balances as a result of the operation of the Imperial Purchase Scheme and of the sums spent by the United States and by U.S. military personnel. The figure for Australia's official holdings has also been affected by the transfer, since 1940, of the sterling assets of the commercial banks to the Commonwealth Bank.

In the Middle East, allied war expenditures have been substantial, both through direct purchases and through spending by troops and outlays for the construction of military bases. As a result, there has been a large expansion in the note circulation of these countries. In April 1944, a Middle East Financial Conference was held in Cairo which recommended for the consideration of the Governments of the Middle Eastern countries policies for preventing an intensification of inflationary tendencies both now and in the post-war period. The Conference, while attaching most importance to large imports of goods "as soon as conditions of shipping and supply permit," outlined a comprehensive programme of taxation, savings and price control. Also, in view of the inadequacy of the statistical information available to the Middle East Governments, the Conference urged improvement in the organization and collection of economic and financial statistics, and endorsed a project for establishing a permanent Middle East Statistical Bureau.

The Union of South Africa kept her sterling balances at a minimum working level and invested the whole of her balance of payments surplus in gold. There was, however, a marked increase in her sterling balances in 1944. Practically all the Government's sterling debt and a large part of the British holdings of shares in South African gold mines were transferred to South African ownership. The repatriation of shares was encouraged by the South African Government by the imposition of a discriminatory tax on dividends paid to non-resident holders of South African securities. Canada converted the sterling accumulated in payment for war materials supplied to Britain in 1942 into an interest-free loan of $ (Can.) 700 million. Moreover, about $840 million of Canadian securities formerly held in the United Kingdom had been repatriated by the beginning of 1944. For the mutual aid furnished by Canada, see Chapter VI, page 256.

The sterling balances of East and West Africa are shown in Table 20. The currency boards of other British colonies also acquired substantial sterling reserves. The largest of these reserves was that of Malaya, part of which had been acquired against sales of U.S. dollars.

The foreign exchange reserves of the Latin-American countries consist largely of dollars, though some of these countries have accumulated sizable sterling balances. The Argentine's official holdings of sterling as disclosed in 1942 and 1943, showed an increase from

£17 million to £42 million.[1] In addition, the Argentine has repatriated part of her sterling Government debt. Brazil's sterling balances amounted to £30 million in 1943, and Uruguay's to £4 million.[2] Part of the Portuguese foreign exchange reserve, shown in Table 19, also consists of sterling.[2]

On the Continent of Europe the position of countries which were occupied by or allied with Germany during the war was dominated by Germany's measures of external war finance. Though there were many examples of direct confiscation, for the most part Germany financed her outlays for goods and services obtained from these countries by three methods: 1) by issuing Kassenscheine, 2) by using clearing accounts and 3) by exacting payment of occupation costs. The immediate distinction between methods 2) and 3) is mainly of a bookkeeping nature. In the one case, the Government of the country concerned obliged its central bank to grant advances against clearing claims on Germany. In the other, the central bank had to make advances for occupation costs out of which the German authorities made direct payments inside the country. In both cases Germany obtained local currency for the purchase of goods, services and capital assets in the occupied or allied country.

The total amounts of clearing claims and occupation costs and their rates of growth are examined in Chapter VI. It is only necessary to consider here, therefore, the monetary implications of those claims.

Table 21 shows the balances outstanding both on account of advances for occupation costs and on account of clearing claims against Germany.[3] The figures in this table are based on the Central Bank returns and do not therefore include occupation costs or clearing deficits financed directly by the Treasuries. The German deficit on clearing account which has been financed by the Belgian and French Treasuries is shown on pp. 158-59; no comparable figures have been published for Holland, "Bohemia and Moravia," or other countries. Secondly, no account has been taken of the Reichsmark holdings of commercial banks in the countries mentioned in the table. Finally, a few countries, which certainly had large clearing claims on Germany, are either not covered at all by the table because of the lack of data (Italy, Poland, Spain, Switzerland) or are not completely covered

[1] £60 million in July 1944 according to a statement reported in *The Banker* (London), January 1945.

[2] U.S. Department of Commerce, *Foreign Commerce Weekly*, November 4th and 11th, 1944.

[3] The Kassenscheine which had constituted an important means of payment in the earlier phases of the war were subsequently withdrawn from circulation in Western Europe and in the Balkans, and their countervalue was then usually reported either under occupation costs or under clearing accounts. But they remained in circulation in the occupied areas of the U.S.S.R. until those areas were liberated.

Table 21

Central Bank Reichsmark Holdings[1] *and Advances on Account of Occupation Costs*

A: Reichsmark Holdings B: Occupation Costs (cumulative)

Reichsmarks (000,000)

End of:		1939	1940	1941	1942	1943	1944
I. Occupied Countries							
Belgium	A	—	344	1,032	2,528	4,472	5,556[a]
Czechoslovakia and Moravia							
Bohemia	A	380	780	1,290	1,740	3,350	5,497
Slovakia	A	26	60	95	155	189	.
Denmark	A	—	199	410	583	1,039	1,448
	B	—	225	438	694	1,249	2,268
France	B	—	3,616	7,125	10,548	16,349	21,300
Greece	A	.	.	.	(*3,313)	.	.
Netherlands	A	—	265	1,460	1,592	4,246	5,474[b]
Norway	B	—	852	1,159	3,409	.	*5,680
Yugoslavia "Croatia"	A	.	.	.	.	(645)	(1,164[d])
Total A		406	1,648	4,287	6,598	13,296	17,975
Total B		—	4,693	9,722	14,651	17,598	28,398
Total A + B		406	6,341	14,009	21,249	30,894	46,373
II. Other Countries:							
Bulgaria	A	76	126	471	729	.	.
Finland	A	83	25	—81	—147	—177	—76[d]
Hungary	A	244	244	365	731	1,522	*1,446[b]
Roumania	A	126	136	392	509	548	1,156[e]
Total		529	531	1,147	1,822	1,893	2,526

[a] August; [b] September; [c] July; [d] May; [e] June.

[1] The figures shown exclude as far as possible pre-war or pre-occupation holdings of currencies other than Reichsmarks. For Finland, however, such a separation is not possible; the amounts prior to 1940 certainly consisted largely of sterling, U.S. dollars, etc.

Belgium: National Bank plus "Bank of Issue": Net foreign assets, including Treasury certificates issued for the purpose of financing clearing claims on Germany. *Czechoslovakia*: "Bohemia and Moravia": "Sundry Assets," mostly representing claims on Germany. *Denmark*: A: Net foreign exchange holdings; B: "Sundry Debtors," representing claims on Germany on account of advances for occupation costs. *Netherlands*: Foreign bills plus "Sundry Accounts," mostly representing claims on Germany. *Yugoslavia*: "Croatia" Clearing accounts and "advances against claims in foreign countries." *Bulgaria*: Net Reichsmark holdings, plus Treasury bills denominated in Reichsmarks given by the Bulgarian Government to German firms, in prepayment of orders, and later repurchased by the Bank. *Hungary*: "Advances made for foreign payments" and "other assets" under which claims of Hungarian exporters to Germany were booked temporarily. *Roumania*: Net clearing accounts *plus* foreign assets set aside for special purposes.

(Greece, Norway). The figures for Finland represent the Finnish clearing debts to Germany.

As a result of the accumulation of foreign exchange balances, a very high proportion of central bank assets now consists of claims

against the major belligerent countries. Table 22 shows the changes in the composition of central banks assets for a number of countries.[1]

Table 22

Gold and Foreign Exchange Holdings as Percentage of Total Central Bank Assets

	Gold		Foreign Exchange	
	1938	1944	1938	1944
Argentine	64	26	4	53
Belgium	86	20[a]	—	60[a]
Bolivia	10	29[b]	7	19[b]
Bulgaria	23	8[c]	14	46[c]
Colombia	31	41	4	29
Czechoslovakia[1]	29	2[d]	18[c]	91[d]
Denmark	15	1	14	37
Ecuador	31	46[b]	5	26[b]
Egypt	12	2	32	37
India	20	3	27	90
Netherlands	78	16	—	78
New Zealand	10	3	16	47
Portugal	20	8[e]	18	80[e]
Salvador	55	47	13	41
Sweden	33	25	38	15
Switzerland	71	94	7	2
Uruguay	36	23[f]	—	44[f]
Venezuela	73	74	6	15

[1] Bohemia and Moravia in 1944.
[a] August 1944. [b] September 1944. [c] February 1943. [d] "Other assets." [e] July 1944. [f] November 1944.

Currency Inflation

The increase in Government expenditures and the growth of foreign balances have resulted in an increase in the supply of money. The expansion of currency and credit is depicted in Diagram 5. Table 23 shows the percentage increase in note circulation and sight deposits of commercial banks, as compared with July 1939, for the latest dates available. Certain countries which, because of lack of continuous data, or lack of space, are not covered in the diagram, are included in the table. The countries are arranged in order of the percentage increase in note circulation.

The increase in note circulation has been world-wide and ranges from 312,422,000% in Greece to 25% in Uruguay. Greece along with unoccupied China (for which, however, no data have been made public) are at the top of the inflation scale. Italy, southeastern Europe, Finland, Iceland, the Middle East, India and Japan fall within the range of a 500 to 1000% increase in note circulation, and are followed by Germany and western European countries with increases

[1] For the year to year changes, and for other countries, reference should be made to *Money and Banking 1942/44* from which Table 22 is an extract.

Table 23

Note Circulation and Commercial Bank Deposits

Percentage Increase from July 1939 to latest month in 1944

Country	Note Circulation		Commercial Bank Sight Deposits	
Greece	Nov. '44	312,421,900[a]	.	.
Bulgaria[1]	Sept. '44	1,733	Aug. '43	136
Iceland	Dec. '44	1,210	Dec. '43	771[b]
Hungary	Nov. '44	1,114	June '44	218
Italy[2]	Dec. '44	1,034[c]	Dec. '41	44[c]
Iraq	Dec. '44	802	Mar. '44	1,200
China: Manchuria	May '44	724	.	.
Finland	Dec. '44	619	Dec. '44	377
Iran	Dec. '44	599	Sept. '44	1,150[d]
Palestine	Dec. '44	579	Dec. '44	322
Japan	Dec. '44	576	May '44	219
Yugoslavia: "Croatia"	Dec. '44	572[f]	.	.
India	Dec. '44	498	Dec. '44	360
Egypt	Dec. '44	489	Nov. '43	179[c]
Norway	Dec. '44	483	Dec. '43	176[c]
Roumania	June '44	443	Feb. '44	97
Germany	Dec. '44	435	Dec. '43	159[b]
Czechoslovakia: "Bohemia and Moravia"	Dec. '44	433	.	.
"Slovakia"	Dec. '44	404[e]	.	.
Netherlands	Dec. '44	390	July '44	150
Ecuador	Dec. '44	382	Dec. '44	247
France	Dec. '44	369[a]	June '44	171[a]
Turkey	Dec. '44	361	June '44	132
Belgium	Aug. '44	339	Sept. '44	170[a]
Australia	Dec. '44	322	Dec. '44	197
Canada	Dec. '44	318	Dec. '44	230
Cuba	Dec. '44	312	Dec. '44	245[a]
Bolivia	Dec. '44	303	Dec. '43	182
Denmark	Dec. '44	290	Dec. '44	323
Portugal	Dec. '44	261	July '44	517
United States	Dec. '44	259	Dec. '44	101
Peru	Dec. '44	253	Nov. '44	262
Mexico	Dec. '44	225	Oct. '44	516
South Africa	Dec. '44	224	Aug. '44	180
Colombia	Dec. '44	224	Dec. '44	181
Chile	Dec. '44	208	Dec. '44	112
Brazil	Dec. '44	201[a]	Dec. '43	169[a]
New Zealand	Dec. '44	164	Dec. '44	144
United Kingdom	Dec. '44	160	Dec. '44	145
Sweden	Dec. '44	143	Dec. '44	56
Eire	Dec. '44	136	Dec. '44	67
Argentine	Dec. '44	110	Dec. '44	168
Switzerland	Dec. '44	104	Sept. '44	50[a]
Venezuela	Dec. '44	79	Dec. '44	122
Uruguay	Dec. '44	34	Dec. '44	164
Spain	Dec. '44	31[g]	June '44	41

Percentage increase from: [a] June 1934; [b] December 1938; [c] December 1939; [d] June 1941; [e] November 1939; [f] April 1943 (3); [g] December 1941.

[1] National Bank's circulation outstanding *plus* Treasury certificates, designed to circulate as interest-bearing bank notes, which have been issued since February 1942.

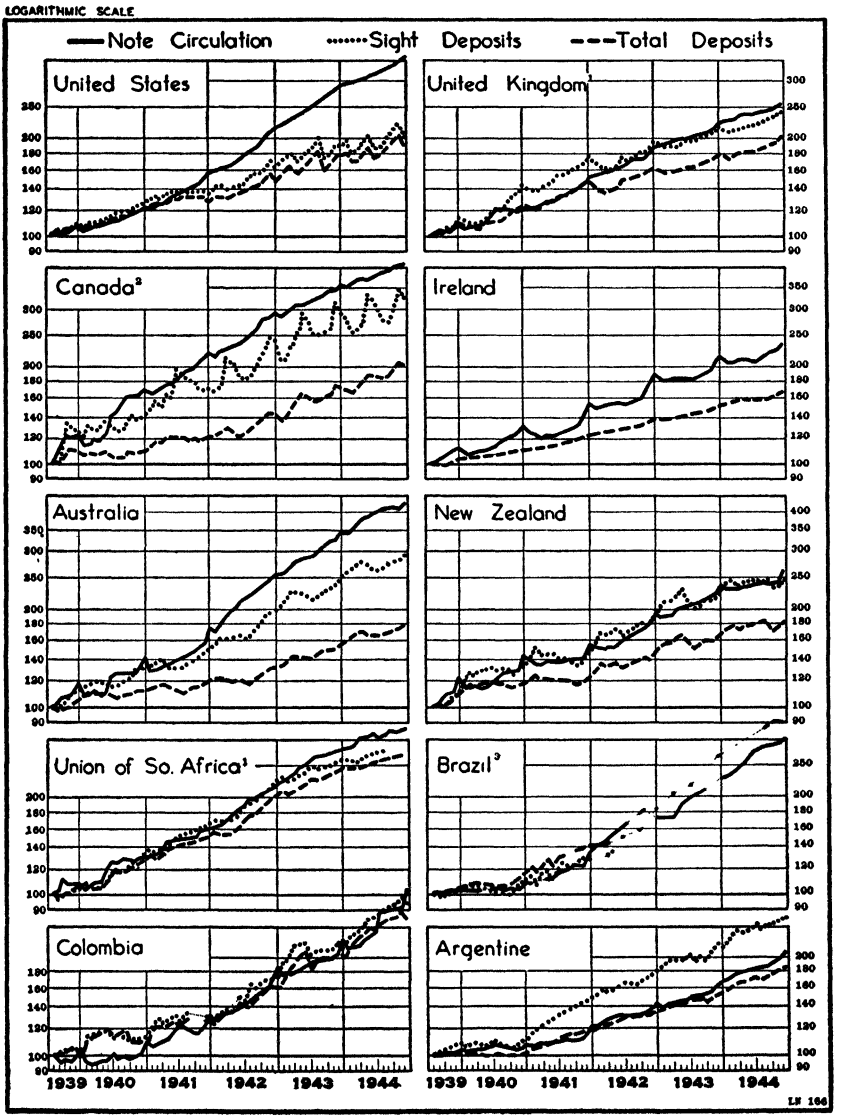
[2] Including issues in northern Italy up to August 1st, 1944, and Allied military currency.

Diagram 5

Note Circulation and Commercial Bank Deposits

July 1939 = 100

A. Note Circulation B. Commercial Bank Deposits

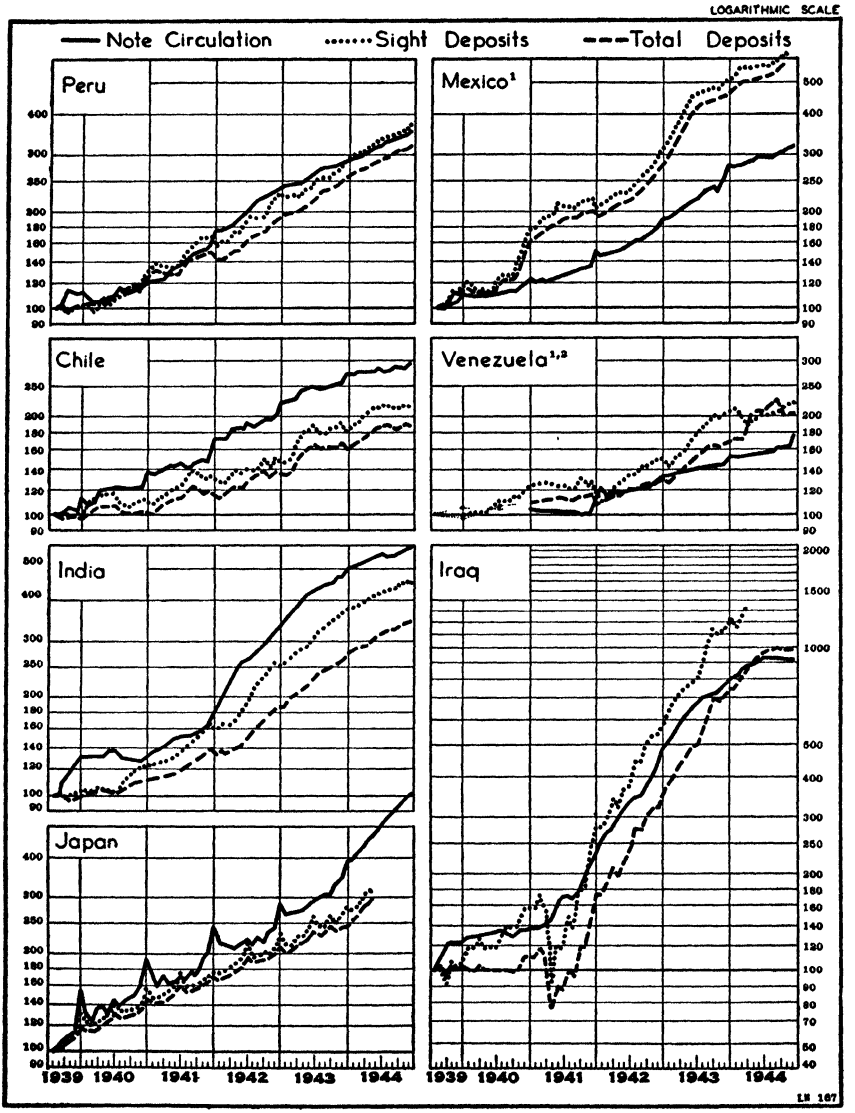


[1] United Kingdom, Union of South Africa: notes in the hands of the public.

[2] Canada: notes: Bank of Canada notes plus Chartered bank notes in the hands of the public.

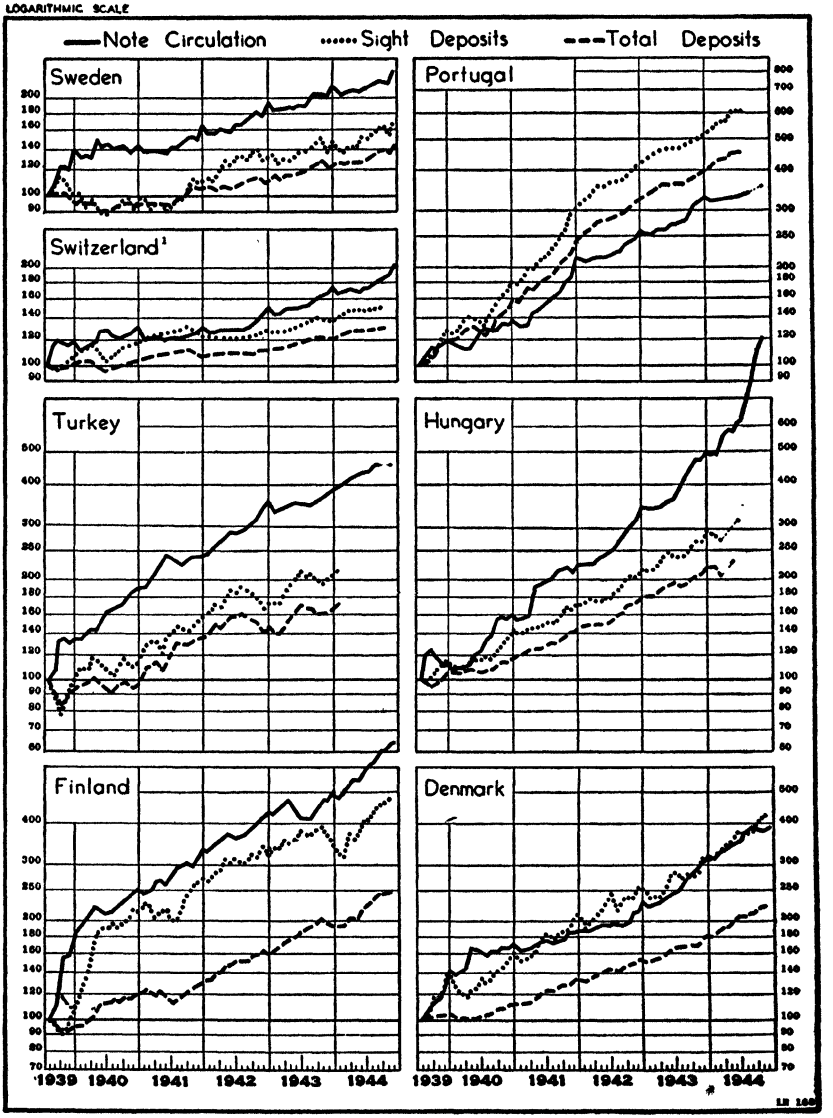
[3] Brazil: base period VI/1939.

Diagram 5 (continued)



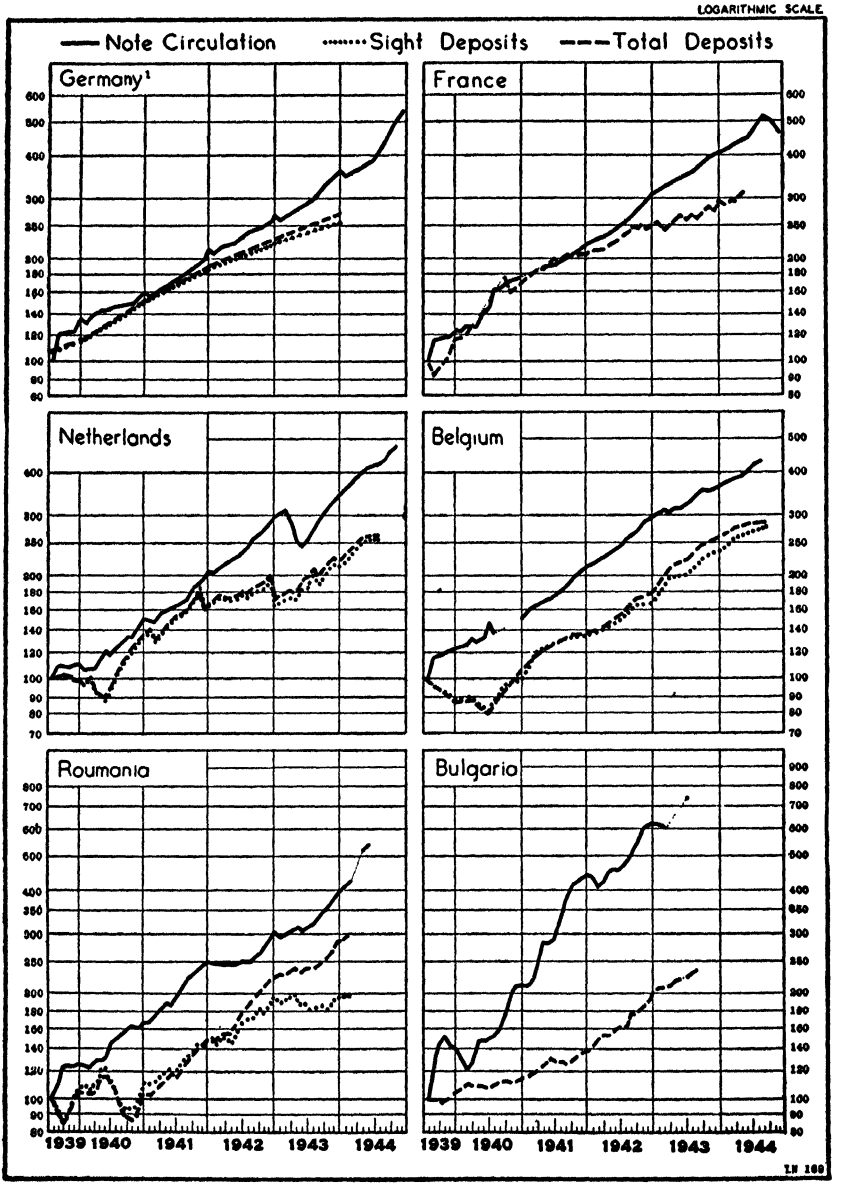
[1] Mexico, Venezuela: notes: notes and coin in the hands of the public.
[2] Venezuela: notes: June 1939 = 100.

Diagram 5 (continued)



[1] Switzerland: deposits: base period VI/1939.

Diagram 5 (concluded)



¹ Germany: deposits: base period XII/1938; curves drawn from end-of-year figures.

of from 300 to 500%. Australia and Canada, the United States and South Africa come next while the United Kingdom, Latin America and the European neutrals are at the lower end of the list.

In some countries the expansion in the volume of money has been greater than appears from the table or the diagram. The figures for coin and notes issued by Governments are included in the totals only for the United Kingdom, the United States and some Latin-American countries. For most Continental European countries such figures are not available, although it is known that the limits on the issue of coin and Government notes of small denomination have been raised everywhere. "Town currencies" have been put into circulation in Italy and in the Balkans. Various devices involving the issue of supplementary means of payment have been used in order to conceal the rise in note circulation. Thus Bulgaria has had recourse since 1942 to Treasury certificates designed to circulate as interest-bearing bank notes.[1] In Roumania Treasury bills, payable to bearer and transferable without formalities, were put into circulation, though their acceptance by private persons was not made compulsory. Another expedient, somewhat similar to the "delivery bill" of 1938/39 in Germany, was adopted in several countries occupied by Germany. The procedure consisted in making it compulsory for certain payments to be made in short- and medium-term obligations of the national authorities, and though it was first limited to payments for goods delivered and services rendered to those authorities, it was later extended to payments for account of the occupation authorities and for exports through the clearing.

The increase in commercial bank deposits has been much smaller than the increase in the note circulation everywhere except in Portugal and some Latin-American countries. This change in the composition of the money supply has occurred not only in countries where notes are the chief means of payment (as in Continental Europe and Latin America), but also in Anglo-Saxon countries where deposits constitute by far the greater part of the total volume of money. In a number of Continental European countries, however, measures were taken to make payment by cheque obligatory for payments above a certain sum. This was done, for instance, in France in October 1940, in Greece in December 1941, in Bulgaria in April 1942 and in Germany in January 1943. The purpose of such measures was to reduce the note circulation and to obstruct black market operations.

Within the total volume of commercial bank deposits, there has been almost everywhere a marked shift from time and savings deposits to deposits payable on demand. Thus it will be seen that in Diagram 5 the dotted line (sight deposits) is well above the broken

[1] The amount in circulation in 1944 was 15,000 million leva against 40,700 million leva of notes issued by the National Bank.

line (total deposits) and that the spread between the two has tended to widen.

Regulations regarding cover for the note circulation (or note circulation and deposits of central banks) have been either suspended altogether or else adjusted to the rapid growth in the volume of money. Reserve requirements had been abolished in Germany, Italy and Greece before the war. They were suspended in France and Denmark at the outbreak of the war, in Belgium in March 1942, and in the Netherlands in June 1943 by the German occupation authorities; in May 1944 the Belgian Government suspended the reserve requirements with the express intention of enabling the Bank to use its gold stock for reconstruction purposes. Elsewhere in Continental Europe the reserve requirements have been met by the adoption of a broader definition of foreign exchange so as to include Reichsmark balances. In Sweden, elasticity was provided by the inclusion of gold held abroad in the cover and by the revaluation of the gold at the market price for purposes of calculating the reserve ratio. In Canada the legal reserve requirements were suspended in 1940, and the gold holdings of the Bank of Canada were transferred to the Foreign Exchange Control Board in exchange for Government securities. In countries where the system of a fixed fiduciary issue is in force, the legal limits were raised from time to time. In the United Kingdom, the fiduciary issue was increased from £300 million to £580 million at the outbreak of the war when the gold holding was transferred to the Exchange Equalization Fund, and thirteen subsequent increases brought the fiduciary issue to £1,250 million in December 1944. In Japan, the distinction between fiduciary and non-fiduciary issues was abolished in 1941, and the limit for the total issue was subsequently raised on several occasions. In most of the countries which have accumulated foreign balances (the Middle East, Latin America, the European neutrals, and the British Dominions—with the exception of Canada and India) no change was made in reserve requirements, and the revised South African Reserve Bank Act of May 10th, 1944, reimposed the obligation of the Reserve Bank to redeem its notes in gold, though immediately after the enactment of the measure this obligation was temporarily suspended. In the United States, the reserve ratio of the Federal Reserve Banks fell from a peak of 91% in February 1942 to 48.6% in February 1945, the lowest point which it has reached since March 1933; the legal minimum ratio is 35% for deposits and 40% for notes.

In a number of countries, certain denominations of notes have been withdrawn from circulation in order to reduce the amount of notes outstanding or to prevent black market transactions, tax evasion and breaches of exchange control and other regulations. The underlying circumstances and the methods of withdrawal have been

various. In the United Kingdom, the issue of notes of £10 and upwards was discontinued in April 1943; but the legal status of the outstanding notes was not impaired until May 1st, 1945. Much more drastic steps were taken in the Netherlands. In March 1943, the German authorities declared invalid and called in all notes of 500 guilder and 1,000 guilder denominations, which represented about one quarter of the total circulation. The holder of notes surrendered received their counterpart only after payment of taxes due or payable in the current year, and in certain cases after enquiries had been made into his position. It was officially stated that out of a total of 870 million guilders in large notes outstanding, 140 million guilders were not surrendered. The net effect of the note withdrawal is visible in Diagram 5. In Turkey, an attempt to reduce the note circulation was combined with the capital levy mentioned above; but, as may be seen in Diagram 5, the decline in the note circulation was of short duration. In Finland, the Government threatened in July 1943 to stamp notes and to require the surrender of part of them against Government securities; and a similar scheme was actually adopted in Bulgaria.

Measures for combatting the inflation brought about by the German occupation were adopted by Belgium and Greece in October 1944. In Belgium, all notes of 100-franc denomination and larger had to be surrendered in exchange for new notes. Of these no one person could receive more than 2,000 francs, and any balance due to him was credited to a blocked account. At the same time all banking deposits were blocked except for 10% of the depositor's balance or the amount credited to his account on the eve of the German invasion in May 1940, whichever was the larger, or 1,000 francs per employee in the case of business firms. Of the balance, 40% was to be released gradually and the remaining 60% was to be blocked indefinitely and was liable to a capital levy on excess war profits. As a result, out of a note circulation of some 100,000 million francs, 90,000 million were declared and 28,500 million reissued to the public.[1] When on January 11th, 1945, the National Bank resumed the publication of periodic returns, the note circulation was shown at 42,700 million, the balance between the amount released as a result of the note conversion and the amount actually in circulation two months later reflecting mainly the needs for Belgian currency by the Allied Armies.

In Greece, new drachma notes were issued early in November 1944 at a rate of one new drachma for 50,000 million old drachmae. The Bank of Greece declared its willingness to exchange old drachmae

[1] The initial conversion of 2,000 francs per head produced 14,500 million francs; a second release made a fortnight after the first amounted to 13,000 million; and the balance of about 1,000 million was released for meeting cases of individual hardship.

against the new ones at any time and fixed the rate of exchange between the new drachma and the pound sterling at 600 drachmae = £1. The new currency is covered by gold earmarked in London and by foreign exchange. The total of the Bank's earmarked gold and foreign exchange reserves is reputed to be £42 million.

The war-time expansion in the volume of money has in most countries been more than proportional to the growth in the volume of monetary transactions. In other words, the public has become more liquid; the "velocity of circulation" of the money supply has declined. As indicated before, this slowing down of the average turnover rate of money has been due in some measure to war-time restrictions on private spending.

A comparison of the money supply with the national income affords a rough indication of change in the "income" velocity of money —that is, in the rate of turnover of money against final income (wages, rents, dividends, interest, etc.). For three countries, such a comparison is made in Table 24. In Canada, it will be seen, there

Table 24

Supply of Money Compared with National Income

A. National Income (at factor cost, excluding indirect taxation).
B. Note and Coin Circulation outside Banks.
C. Commercial Bank Sight Deposits.
D. B *plus* C as % of A.

National currencies (000,000's)

		1938	1939	1940	1941	1942	1943	1944
United Kingdom	A	4,619	4,970	5,913	6,877	7,554	8,079	8,334
	B	463	478	525	608	769	933	1,104
	C	1,244	1,252	1,487	1,885	2,148	2,455	2,765
	D	*37*	*35*	*34*	*36*	*39*	*42*	*46*
United States	A	64,200	70,800	77,600	96,900	122,200	149,400	160,700
	B	5,417	6,005	6,699	8,204	10,936	15,814	20,881
	C	24,912	28,147	32,790	38,070	43,707	64,087	79,571
	D	*47*	*48*	*51*	*48*	*45*	*53*	*62*
Canada	A	4,288	4,570	5,391	6,426	8,044	8,724	9,186*
	B	205	216	287	386	523	688	835
	C	784	888	1,102	1,410	1,688	2,140	2,434
	D	*23*	*24*	*26*	*28*	*27*	*32*	*36*

Note: *United Kingdom*: B and C: Annual averages, C: London Clearing Banks; current accounts. *United States*: B and C: End of June figures. B: Currency outside banks. C: All banks, demand deposits (other than inter-bank) and United States Government deposits. *Canada*: B and C: Annual averages. B: Total active note circulation. C: Chartered banks; demand and Government deposits.

* Provisional.

has been an almost continuous rise in the ratio of money (*i.e.*, note circulation *plus* demand deposits) to national income. The ratio declined in the United Kingdom between 1939 and 1940, and in the

United States between 1940 and 1942, as the expansion in national income was particularly rapid during the early years of war economy. Subsequently, the average income velocity of money in both the United Kingdom and the United States shows a marked decline, as indicated by the rise in the ratio of money supply to national income.

For the United Kingdom, figures have been published showing the ownership of commercial bank deposits (see Table 25).[1]

Table 25

United Kingdom: Clearing Bank Deposits as Percentage of National Income

	Deposits outstanding on June 30th (000,000's)					Deposits as Percentage of National Income (%)				
	1940	1941	1942	1943	1944	1940	1941	1942	1943	1944
Total deposits	1,507	2,087	2,463	2,886	3,330	25.5	30.3	32.6	35.7	40.0
Personal deposits	617	661	704	859	1,032	10.4	9.6	9.3	10.6	12.4
Business deposits	890	1,426	1,759	2,027	2,298	15.1	20.7	23.3	25.1	27.6

From these it appears that "personal" deposits have not increased greatly out of proportion to income; it is the ratio of business deposits to income payments that has risen. For the United States, a survey of demand deposits at all banks[2] shows that personal deposits continued to grow in 1944 while business deposits, which had previously been rising, declined slightly.

The velocity of circulation of bank deposits, unlike that of notes and coins, can be roughly gauged by comparing the variations in bank deposits with the variations in bank clearings or debits. The indices obtained in this way reflect the turnover rate of bank deposits, not merely against income payments, but against all monetary transactions entering into the bank clearing or debit figures. For twenty-four countries such indices are given in Diagram 6. They show in most cases a marked decline in the velocity of circulation of commercial-bank demand deposits. Only for Hungary and Roumania do the indices (available up to the end of 1942 and the middle of 1943, respectively) show a considerable increase. This is not surprising since, in these two countries, government controls were comparatively ineffective and prices rose very substantially. The public, if free to do so, usually react to an inflation of prices by speeding up the rate at which they spend their money. It is a remarkable fact, however, that even in countries such as India and Mexico, where an inflationary rise in prices occurred, the turnover-rate of bank deposits

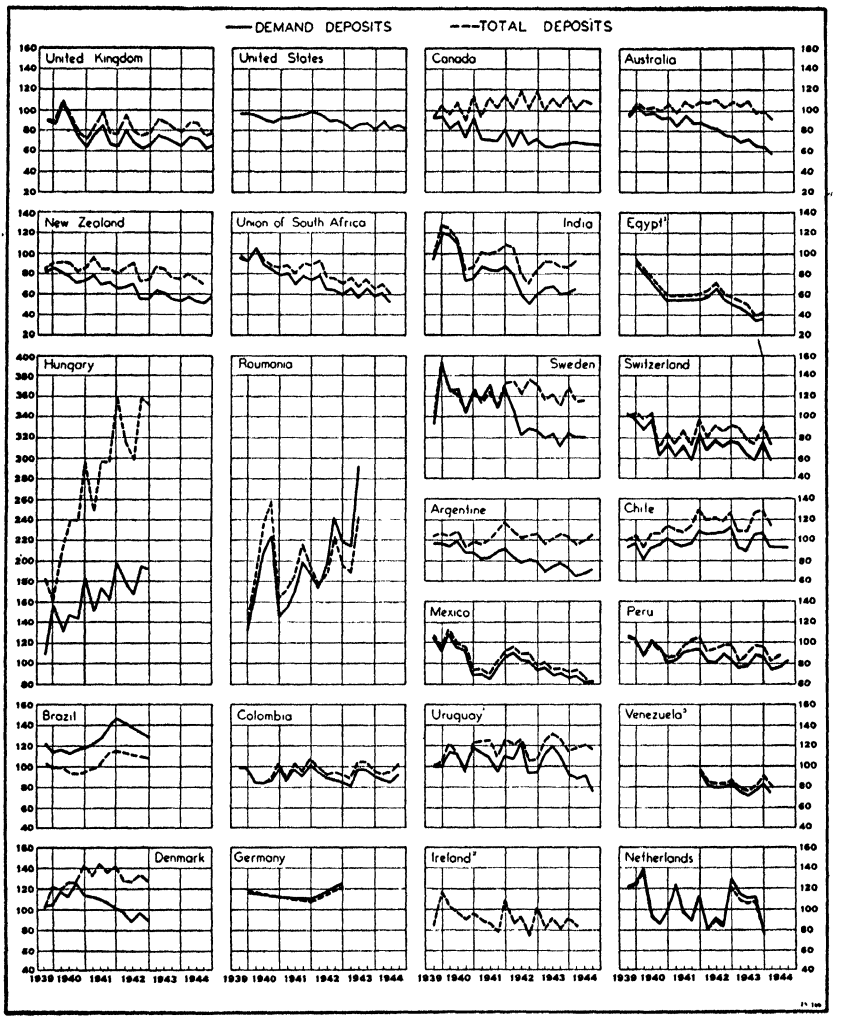
[1] "An Analysis of the Sources of War Finance and Estimates of the National Income and Expenditure in the Years 1938-1943." Cmd. 6520. For 1944, Cmd. 6623.

[2] *Federal Reserve Bulletin*, April 1945.

Diagram 6

Velocity of Circulation of Commercial Bank Deposits[a]

1938 = 100



[a] For the United States, the index shown is that compiled by the Federal Reserve Bank of New York, showing the velocity of circulation of demand deposits outside New York City. The figures for New York City are very largely influenced by stock exchange transactions.

[1] For deposits, June 1939 = 100.

[2] Total deposits within Ireland.

[3] Second half 1941 = 100.

declined below the pre-war level, as it did in most of the other countries included in Diagram 6.

The changes in the supply of money and in prices in the course of the five years of the present war and in the First World War are shown in Diagram 7. The diagram allows us to make a rough and very tentative comparison between the changes in the supply of money and prices in the two wars. The curves of note circulation show that Greece and Italy (apart from China, for which no recent figures have been made public) are the only countries where the degree of inflation was much greater in 1939-1944 than in 1914-1919. In the United States, Canada, New Zealand, India, Japan, the Netherlands, Norway, the Argentine, Brazil and Chile, the range of indices of the currency circulation in the present war is somewhat higher than in the last one; in France and in the United Kingdom (and also in Denmark, which is not represented in the diagram) the relative expansion was about the same in the two wars. In all the other countries covered by the diagram the expansion has been considerably less in the present war than it was in the last. The increase in commercial bank sight deposits also proceeded at a slower rate and was smaller in magnitude in 1939-44 than in 1914-19. The United States, Australia and Canada are the only countries with higher increases this time than last; in the United Kingdom the expansion was about the same in both wars. A similar difference may be noticed in price movements: in the fifth year of the present war the official price index in all countries except Greece and China, and some Middle Eastern countries, was lower in relation to the pre-war level than it was in 1919; and whereas in the First World War the expansion of the note circulation was accompanied by price changes of comparable magnitude, the present increase in circulation has, in most countries, been appreciably greater than the rise in prices.

Interest Rates and Security Prices

A characteristic feature of the financial side of the present war is the low level of interest rates. In almost all countries the cheap-money policies of the period before the war were continued, and Governments borrowed their huge requirements of funds at interest rates which were held down by a variety of controls and in a market that was becoming increasingly liquid as the result of monetary expansion. It will be seen from Diagram 8 that long-term interest rates, as reflected in the yield of government bonds, have declined almost without interruption in a large number of countries; short-term interest rates, though frequently controlled by agreements among banks, have also shown a continual downward tendency, while the spread between short- and long-term rates has been narrowed. There

Diagram 7

Supply of Money and Movement of Prices in 1914-19 and 1939-44

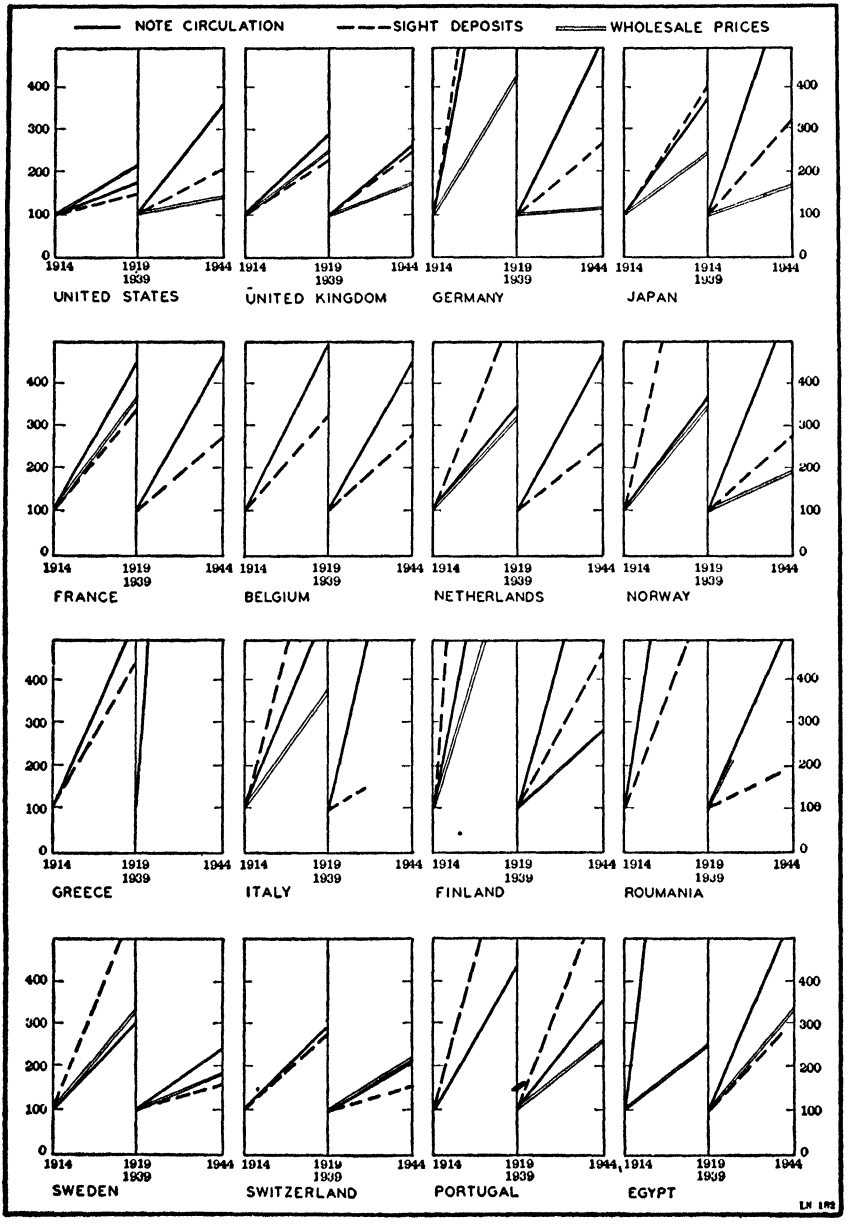
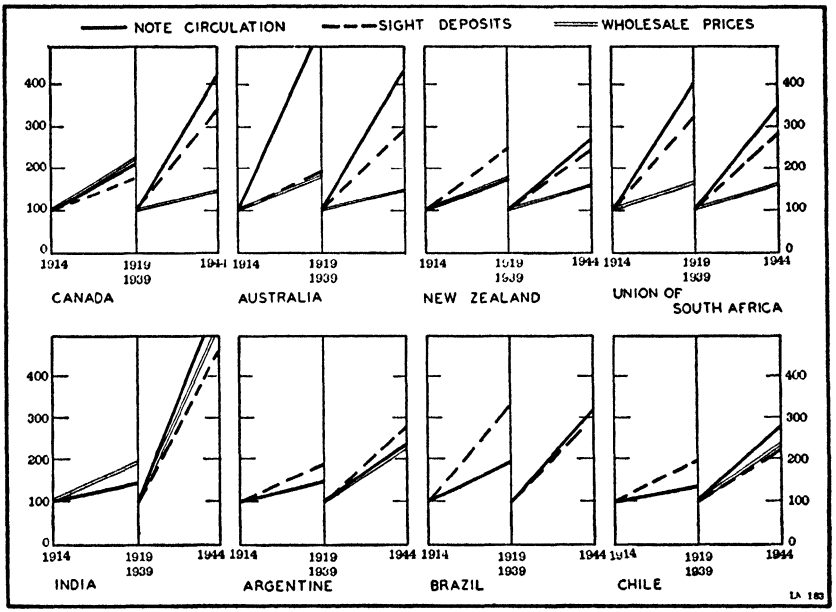


Diagram 7 (concluded)



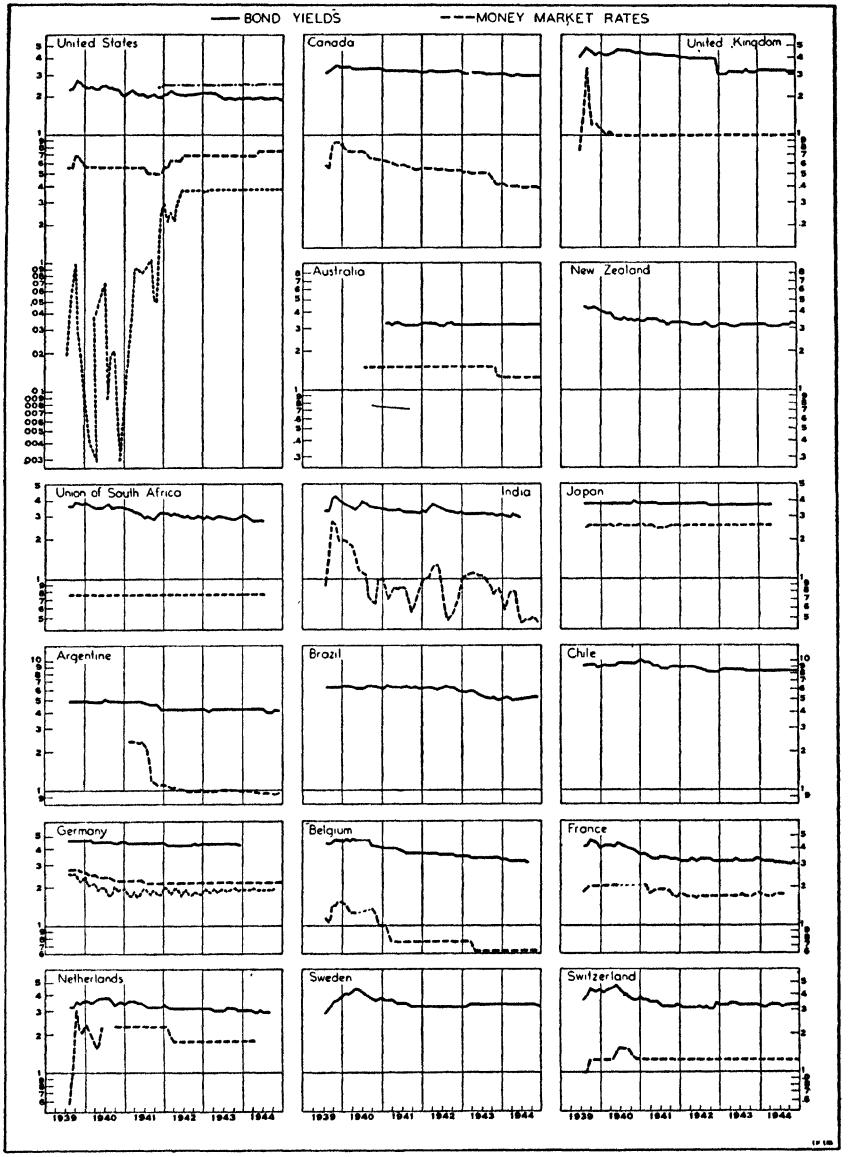
Note: Gold coins outstanding in 1913 which had been withdrawn from circulation after the outbreak of the war have been taken into account in estimating the monetary supply in 1913.

were no changes in central-bank discount rates in 1943; in 1944 and at the beginning of 1945 several reductions were made: in Portugal from 3 to 2½% on January 12th, 1944, in Canada from 2½ to 1½% on February 8th, 1944, in Italy from 4½ to 4% on September 11th, 1944, in Belgium from 2 to 1½% on January 16th, 1945, in France from 1¾ to 1⅝% on January 20th, 1945, in Sweden from 3 to 2½% on February 9th, 1945. The new French discount rate is the lowest since the foundation of the Bank of France; a discount rate of 2½% has only once before been in force in Sweden, namely, from December 1st, 1933 to April 1st, 1935. The Bank of Greece raised its discount rate early in December 1944 from 6 to 11%.

Italy has been one of the principal exceptions to this world-wide tendency towards falling interest rates. The longer-term borrowing of the Italian Government has mostly taken the form of 5% tax-free nine-year Treasury bonds issued at 97½ and yielding 5.93%,

Diagram 8

Bond Yields and Money Rates



including prizes. An attempt was made in September 1942 to borrow at 4% at an issue price of 92 (giving an effective yield, including prizes, of 5.68%), but it proved necessary to revert to the previous terms of borrowing in 1943. Other countries whose interest rates have remained high are Roumania, where Government bonds still yield over 7%, Hungary where they yield over 6%, Finland, and some Latin-American countries (Chile with over 8%, Colombia with almost 7%, and Uruguay with almost 5%).[1] In the U.S.S.R., war loans with a 20-year maturity carry interest at 2% or bear no interest at all, but entitle the holder to participation in the drawing of prizes.

In a number of countries maximum rates for bank interest have been fixed by the Government or other authorities. Thus in Australia, under the National Security Regulations, maximum rates were established by the Commonwealth Bank in 1942. The rates were lowered in January 1944 and again in August 1944 in order to induce the public to invest in Government bonds rather than to keep savings deposits. Only in Italy, and some countries in southeastern Europe, have the rates of interest paid on deposits been increased in recent years. The Bank of Italy raised the rate on savings deposits from 1½ to 3% in March 1943.

Changes in the market value of industrial shares are shown for a number of countries in Diagram 9; and the percentage change in 1939-1944 and in 1944 is given in Table 26. It will be seen that, disregarding Japan, where a rigid control prevented any rise, Canada is the only country where share prices are still below the pre-war level. Southeastern Europe, the western European countries that were occupied by Germany, and Mexico, are the areas where the inflation of security values has been most extreme. But the turnover on stock exchanges in the European areas fell to a fraction of the pre-war volume, and quotations in "underground" markets rose even more than the official price indices. Greece is not shown because of the lack of data, but price quotations for individual shares rose to several hundred thousand times their pre-war level.

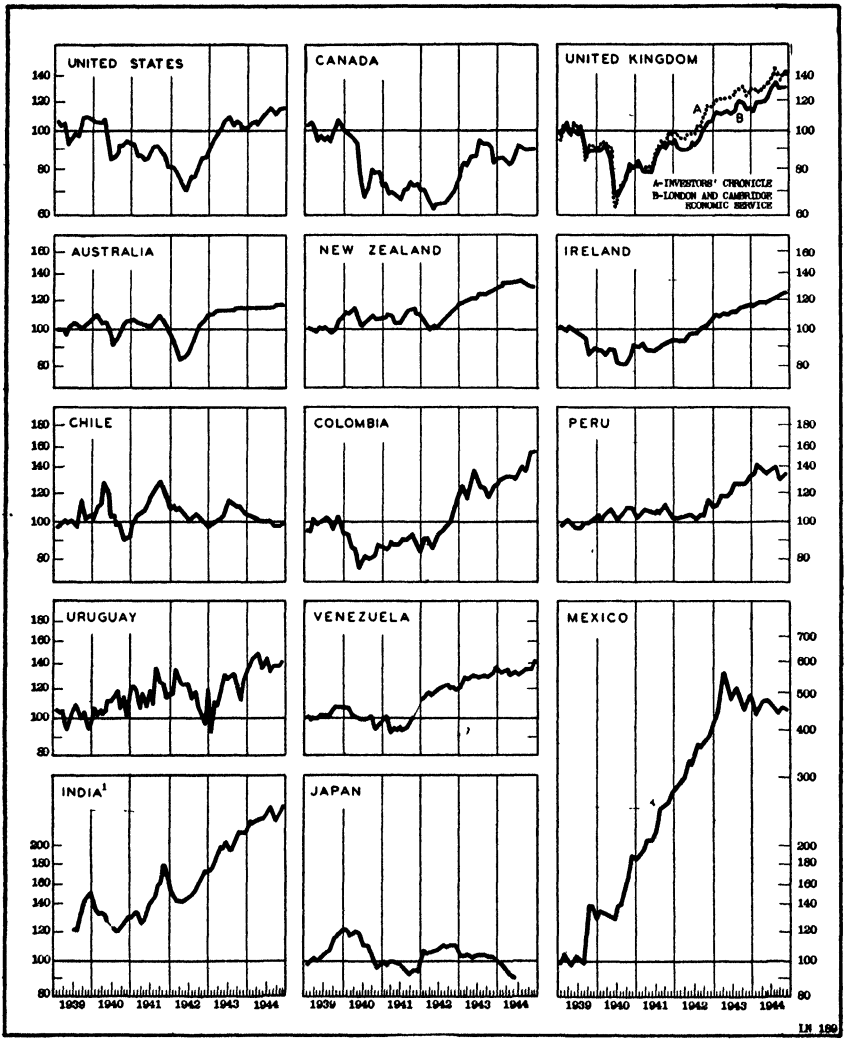
When inflation is anticipated, it is usually reflected in the movement of stock prices, and it is interesting, therefore, to consider the increase in share values against the background of the movement of commodity price levels and the cost of living. A comparison with the movement of price indices (see Chapter V) shows that in the United Kingdom, the British Dominions, Sweden and Switzerland, the rise in share prices was smaller than the increase in wholesale prices. New Zealand is the only country in this group where security values rose more than the cost of living. In the United Kingdom and in Australia the increase in the two indices was about equal. In

[1] For countries not covered by Diagram 8, see League of Nations *Monthly Bulletin of Statistics*, Money Market Rates and Percentage Yield of Bonds.

Diagram 9

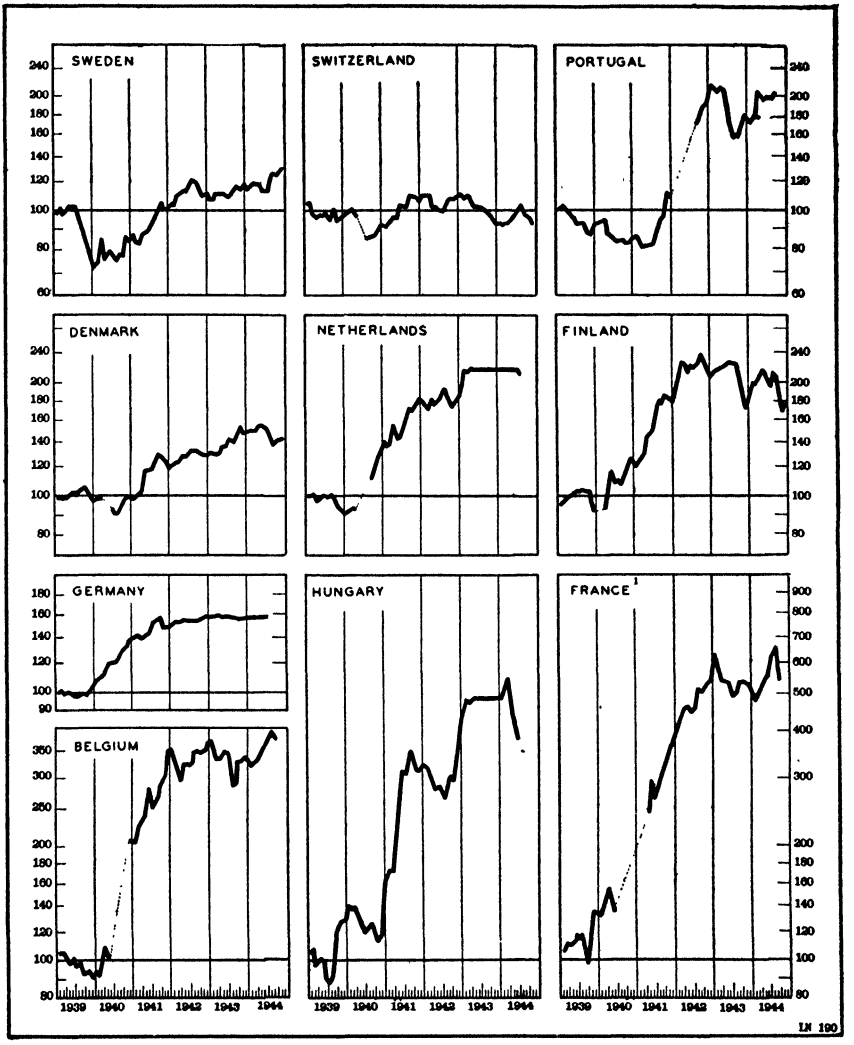
Movement of Market Value of Industrial Shares

Jan.-June 1939 = 100[1]



[1] India: base period VIII/1939.

Diagram 9 (concluded)



[1] France: base period 1938.

Table 26

Prices of Industrial Shares

A: Percentage change from January-June 1939 to December 1944
B: Percentage changes during last twelve months

Country	A	B	Country	A	B
France	+423[a]	— 2[a]	Venezuela	+41	+ 5
Mexico	+350	— 7	Peru	+40[d]	+ 2[d]
Hungary	+293[b]	—19[b]	Uruguay	+38[f]	+25[f]
Belgium	+255[a]	+ 2[a]	New Zealand	+30	+ 3
India	+143[c]	+25[c]	Sweden	+26[g]	+10[g]
Netherlands	+110[d]	— 3[d]	Ireland	+23	+ 7
Portugal	+102[e]	+29[e]	Australia	+15[g]	+ 2[g]
Finland	+ 76	— 1	United States	+15	+14
Germany	+ 58[d]	+ 1[d]	Chile	— 3[g]	—11[g]
United Kingdom .	+ 42	+14	Switzerland	— 8	0
Colombia	+ 42[e]	+21[e]	Japan	— 9[a]	—10[a]
Denmark	+ 41	— 3	Canada	—11	+ 7

Percentage change to: [a] April 1944. [b] June 1944. [c] August 1944. [d] July 1944. [e] September 1944. [f] October 1944. [g] November 1944.

western and southeastern Europe, on the other hand, security values rose further than the official indices of prices and the cost of living, and the yield of shares in these countries fell below the yield on Government bonds.

In Germany and German-occupied countries, dealings in shares were gradually made subject to more and more strict controls. At first, stress was laid on indirect measures, such as taxes on profits and capital gains and the limitation of dividends, but from 1940 onwards more drastic steps were taken with a view to controlling not only quotations, but also the turnover and the entire market activity. These included the abolition of forward dealings; the concentration of all dealings on the official market (1941 and 1942); the registration of shares (1941 and 1942); the fixing first of "guiding" quotations for leading shares (1942), and later of "stop" rates above which quotations were forbidden (1943); the rationing of purchases (1942); and the compulsory declaration of security holdings and their sale, as and when required by the Government, for Treasury bonds that were blocked for the duration of the war. As a rule, measures taken in Berlin were extended to Vienna and Prague, and in modified form to Amsterdam, Brussels and Paris; some time later, similar measures were taken in Milan, Budapest and Bucharest. As a result of the increasingly rigid controls, the volume of transactions fell to negligible amounts.

It may be added that transfers and prices of real estate have also been made subject to control in a number of Continental European countries, including Denmark, France, Germany and Italy and the Balkans, and also in Australia.

Currencies of Liberated Countries

The exchange rates between the currencies of the liberated countries of western Europe and the pound sterling and the dollar have been fixed below those existing before the war. At first, the new rates of exchange were fixed tentatively for the purpose of converting the Allied currencies into the local currencies of the liberated territories. In October 1944, however, the United Kingdom concluded monetary agreements with Belgium and the Netherlands, formally endorsing the provisional exchange rates, and providing that these "official rates" should not be varied by either of the contracting Governments except after consultation with the other. Similarly, the Anglo-French Financial agreement of March 27th, 1945 provided that the existing rate of exchange may only be modified after mutual consultation.

The accompanying statement shows the new rates, together with those which prevailed prior to the suspension of trading in the currencies concerned in May and June 1940:

Equivalent of £ or $ in currency unit of:	New Rate		Old Rate	
	£	$	£	$
Belgium	176.62	43.77	123.00	29.60
France	200.00	50.00	176.50	43.80
Netherlands	10.69	2.65	7.60	1.88

As compared with the 1940 level, the new rates for the Belgian franc and the Dutch guilder represent a depreciation of slightly over 30% and that for the French franc a depreciation of about 12%. The old rate for the French franc had been formally recognized in the Anglo-French Financial Agreement of December 4th, 1939, and was applied after June 1940 in the Free French territories of Equatorial Africa, in Oceania, in French establishments in India, and later also in Syria and Lebanon. A rate as high as 300 francs to the £ (75 francs to the $) was fixed in November 1942 in French North Africa, but it soon proved necessary to alter it, and in February 1943 it was reduced to 200 francs to the £ (50 francs to the $). The new Belgian rate gives a lower value to the Belgian franc than that which prevailed immediately before Belgium was invaded in 1940. It is, however, identical with the rate fixed in June 1940 for the Belgian Congo franc. The Dutch rate, on the other hand, is higher than the rate of 7.60 guilders = £1 at which the Dutch West Indies and (prior to the Japanese occupation) the Dutch East Indies currency was pegged to sterling. The new rate of 10.69 guilders is the cross-rate obtained on the basis of the exchange rate of 1 guilder = 16.52 Belgian francs which was fixed in the Belgo-Dutch monetary agreement of October 21st, 1943.

Under this agreement, which was followed in September 1944 by

another agreement intended to prepare the way for a permanent and complete Customs Union, the two countries arranged to put enough funds at each others' disposal to prevent payments between the franc and guilder areas from being impeded by a shortage of guilders in the one or francs in the other. Similarly, the Anglo-Belgian and Anglo-Dutch agreements of October 1944, the Franco-Belgian agreement of February 1945, and the Anglo-French agreement of March 1945 set up machinery for settling payments between the respective monetary areas and provided for overdraft facilities in respect of their mutual payments up to a certain maximum; no such limit, however, has been set in the Anglo-Swedish agreement of March 6th, 1945. The agreements, while bilateral in form, were specifically stated to be open to the accession of other countries.

In Greece, a new relationship between the drachma and the pound sterling was fixed on November 11th, 1944 as part of the currency reform mentioned earlier. The parity for the pound sterling was fixed at 600 drachmae = £1 (the rate in 1940 was 530 drachmae). In the early phases of liberation, the pound notes issued by the British Military Authority were exchanged at varying rates which were driven up to thirty trillion drachmae for one pound before the stabilization of the drachma. It may be added that the Greek authorities fixed the drachma value of the gold sovereign at four times that of the pound note. This corresponds to double the London price of the sovereign.

In Belgium, the Netherlands, France (after the completion of the initial military operations) and in Greece, local notes were supplied to the Allied forces by the national authorities in the countries concerned.[1] A similar procedure was followed in the parts of Czechoslovakia that were liberated by the Russian armies. The pre-war parity of 100 Czechoslovak crowns to 18 roubles is still in force. In Poland, a new National Bank was established with a temporary seat at Lublin and early in January 1945 the notes of the "Issue Bank in Cracow," set up by the German occupation authorities, were withdrawn from circulation.[2] "Cracow notes" up to 500 zlotys per person were exchanged at par against the new ones, while amounts in excess of 500 zlotys were blocked, together with all bank deposits, with exceptions provided for business, governmental organizations, wel-

[1] In France, the so-called Tricolor notes, printed in the United States and used in the initial stages of the invasion, were almost completely withdrawn in the second half of 1944; both these notes (5,400 million francs in December 1944) and the notes evacuated to England in 1940 and used by the Allies in the course of military operations (6,982 million francs) are included in the French note circulation as shown in Table 23 (together with 4,200 million appropriated by the Free French for the needs of the Resistance movement).

[2] In a despatch from Lublin to the *New York Times*, January 10th, 1945, the zloty notes printed by the German occupation authorities were stated to amount to 15,000 million.

fare institutions, etc. The rate of exchange between the new zloty and the rouble was fixed at one to one.

In the Philippines, a new issue of Philippine currency was put into circulation in November 1944, the pre-war exchange rate of two pesos to one dollar being maintained.

In the central Pacific, the invading American forces brought with them for their own use and for the use of the local inhabitants the "Hawaiian dollar." This currency was first issued in July 1942, when a threat to Hawaii still existed. It consisted of silver certificates and Federal Reserve notes bearing the overprint "Hawaii" and replaced the currency previously in circulation, which was withdrawn. The new currency was later used also in the reconquered islands of the central Pacific. The rate of exchange is 20 Japanese military yen to one dollar (against 4.27 yen to the $ before the war). However, a rate of 10 yen to the dollar was established for Japan proper in March 1945, when American forces invaded the Ryukyu Islands.

In Germany, Allied occupation marks, circulating at par with the Reichsmark, have been issued at the rate of 40 marks to the £ or 10 marks to the $, "for the purpose of computing the pay of troops." This rate represents one-fourth of the pre-war official quotation, but most transactions were conducted before the war at much lower rates, which depreciated further during the war.

On the basis of the official exchange relationships fixed between the French franc, the £ and the $, the value of the Reichsmark in terms of the franc would be 1 mark to 5 francs; but a special exchange rate of 15 francs was granted to the residents of Alsace-Lorraine. For amounts which could be proved to have been held prior to 1940 an exchange rate of 20 francs was accorded. This concession was made in order to enable the population to reconvert Reichsmark holdings into francs on about the same basis as was fixed by the German authorities in 1940. In fact, however, only cash holdings could be converted, because the books of the banks had been removed by the Germans. In Luxemburg, where the Reichsmark had circulated as sole legal tender since 1941, the German currency was exchanged at the rate of 1 mark to 10 Luxemburg francs for amounts up to 100 marks for each household, higher amounts being converted at 5 francs. Old Belgian and Luxemburg notes had also to be declared. Cash exchanges were limited to 2,000 francs per person, the remainder being blocked provisionally. Book claims in existence before the incorporation of Luxemburg into the German monetary system in 1941 were converted at par, and those which arose later at 5 francs, quadrupling the public debt of Luxemburg.

In Italy, the rate was fixed in July 1943 at 400 lire to the £ (100 lire to the $), after being reduced from the rate of 480 lire to the £ which had been applied in Italian colonies since January 1943.

The new rate represented about a fourth of the nominal pre-war value of the currency, but, as in the case of Germany, the unofficial rates were much lower than the official.[1] An announcement made by the President of the United States in October 1944 stated that the United States Government would make available to the Italian Government the dollar equivalent of the military lire issued in Italy as pay to U.S. troops.[2] In Roumania, the exchange rate was fixed in July 1944 at 100 lei to the rouble. Four years earlier (August 1940) when the U.S.S.R. occupied Bessarabia and Bukovina, lei were exchanged at the rate of 100 lei for 2.50 roubles, and the following year, when Roumania occupied Russian territories, the value given to the leu was one rouble. This is a striking illustration of the rapid changes through which some parts of Europe have passed in recent years. In Bulgaria, the rouble-leva rate was fixed at 1 rouble to 15 leva.

[1] For the values of the various types of marks and lire from 1938 to September 1944, see *Money and Banking 1942/44*, Table 1.

[2] According to a statement by the Italian Minister of Finance, reported in the *New York Times* of April 4th, 1945, Allied occupation lire amounted to 52,000 million at the end of December 1944; in addition, the circulation in Italy, excluding the German-held territory, was stated to amount to 176,000 million. An over-all total for both parts of the country was estimated at 260,000 million, excluding Allied military lire.

CHAPTER V

PRICE MOVEMENTS AND PRICE CONTROL

Price Movements

Prices continued to increase almost everywhere in 1943 and 1944, though at a slower rate than during the period prior to the middle of 1942. The rate of increase varied considerably from area to area. In Table 1 three areas are distinguished: Europe, the Middle East and India, and the rest of the world. Within each of the three groups the countries are arranged in order of the rate at which their price levels rose during 1943. For the monthly movement of price indices from the beginning of the war up to 1944, reference should be made to Diagram 1, pages 227-229.

In considering price movements in the various countries, it is important to keep in mind that the changes brought about by the war have in some cases affected the reliability or representativeness of the indices, making it exceedingly difficult to analyze price fluctuations on the basis of the published wholesale-price and cost-of-living indices. This is so for several reasons. First, since price indices are based on official price quotations, they are not truly representative of the actual prices paid in countries where a considerable proportion of the market transactions goes through the black market. Secondly, quality deterioration is seldom adequately reflected in the indices. Thirdly, since cost-of-living indices are widely used as a basis for wage adjustments, they are sometimes subject to special measures aimed at stabilizing them. Thus in some countries the government keeps the index from rising by subsidizing only those commodities which enter into the index, while allowing the prices of other commodities not covered by the index to rise. Similarly, if the weights of commodities which are components of the index are reduced in accordance with changes in rationing, it may happen that a cost-of-living index remains stable in spite of the fact that prices are rising.

In the United Kingdom, Scandinavia and Central Europe, the application of rigid price-control measures brought price movements, as reflected in the indices, to a virtual standstill.

In eastern and southern Europe prices continued to rise during 1943 and 1944. In Italy, Yugoslavia, and above all, Greece, the rate of increase in prices assumed the character of a full-fledged inflation. Statistical data of the price movements in these countries are scarce, since indices are no longer published.

No official indices of wholesale prices and the cost of living are published in France, but an unofficial calculation based exclusively on

Table 1

Percentage Increase or Decrease (—) in Wholesale Prices in Certain Countries (December to December)

I. Europe	1942	1943	1944
Sweden	9	0	0
Denmark	2	1	2
United Kingdom	4	1	2
Germany	2	1	2[a]
Norway	3	1	1
Switzerland	8	2	0
Spain	12	7	6[b]
Finland	25	12	8
Bulgaria	20	15[c]	.
Portugal	19	22	9
Hungary	16	52[d]	.

II. Middle East and India	1942	1943	1944
Turkey	134	—11	—3[e]
Palestine	34	13	3
Egypt	38	17	13
Syria (Beirut)	57[f]	18	21
Iraq	102	19	—18
India	54	27	0
Iran	109	34	0

III. Other Countries			
Australia	12	1	1
United States	7	2	1
Chile	23	2	10
Venezuela	12	3	12
Union of South Africa	13	5	1
Costa Rica	41	5	11
New Zealand	7	6	1
Canada	4	6	0
Argentine	13	6	6
Japan	3	9	12[b]
Peru	18	10	1
Mexico	8	27	22
China (Chungking)	78[g]	169	148[a]

[a] December 1943-November 1944
[b] December 1943-October 1944
[c] December 1942-August 1943
[d] December 1942-October 1943
[e] December 1943-September 1944
[f] January 1942-December 1942
[g] April 1942-December 1942

official price quotations is available.[1] The increase in prices since the beginning of the war is shown in Table 2, page 230.

The table shows that wholesale prices in France increased at a decreasing rate while the cost of living increased at an increasing rate. In each year from 1940 to 1943 the percentage rise in the cost of living was greater than in the preceding year. During the first four months of 1944 the cost-of-living index was rising at an annual rate of about 24%. It is difficult to estimate how large a proportion of foodstuffs and other commodities were obtained at black market prices, but various French estimates, which include prices for goods bought in the black market, indicate that the rise in the cost of living may have been almost double that indicated by the index based on the controlled prices alone. The upward movement of prices seems to have continued even after the liberation of France. In October 1944 the price of wheat was raised from 410 francs to 450 francs per 100 kilos, and the price of bread from 3.60 francs to 4.90 francs per kilo.[2] At the end of 1944 the cost of living, on the basis of official prices, was about three times—and on the basis of both official and black market prices, about six times—as high as before the war.

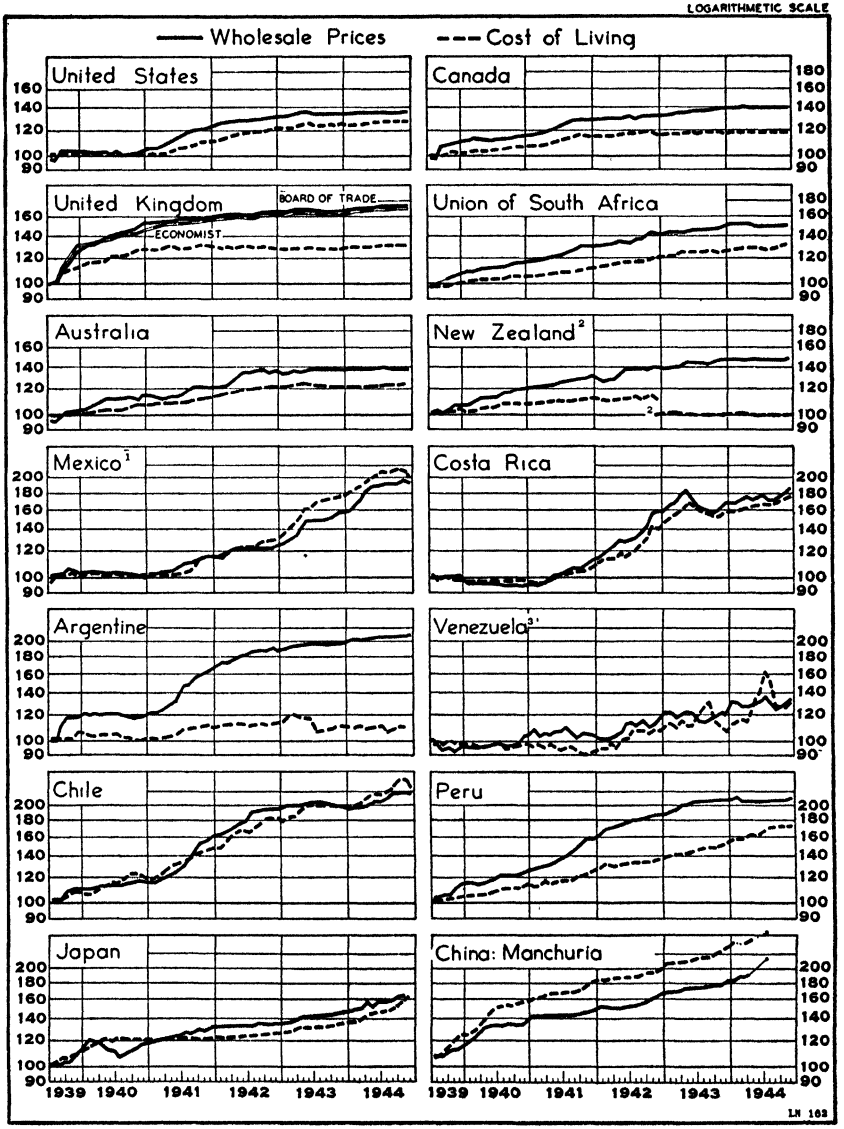
[1] Calculated by, and published in, *La conjoncture économique et financière*. The indices are based on the controlled wholesale and retail prices as given in *Statistique générale de la France*.

[2] *The Economist* (London), October 14th, 1944.

Diagram 1

Wholesale Prices and Cost of Living

First half of 1939 = 100

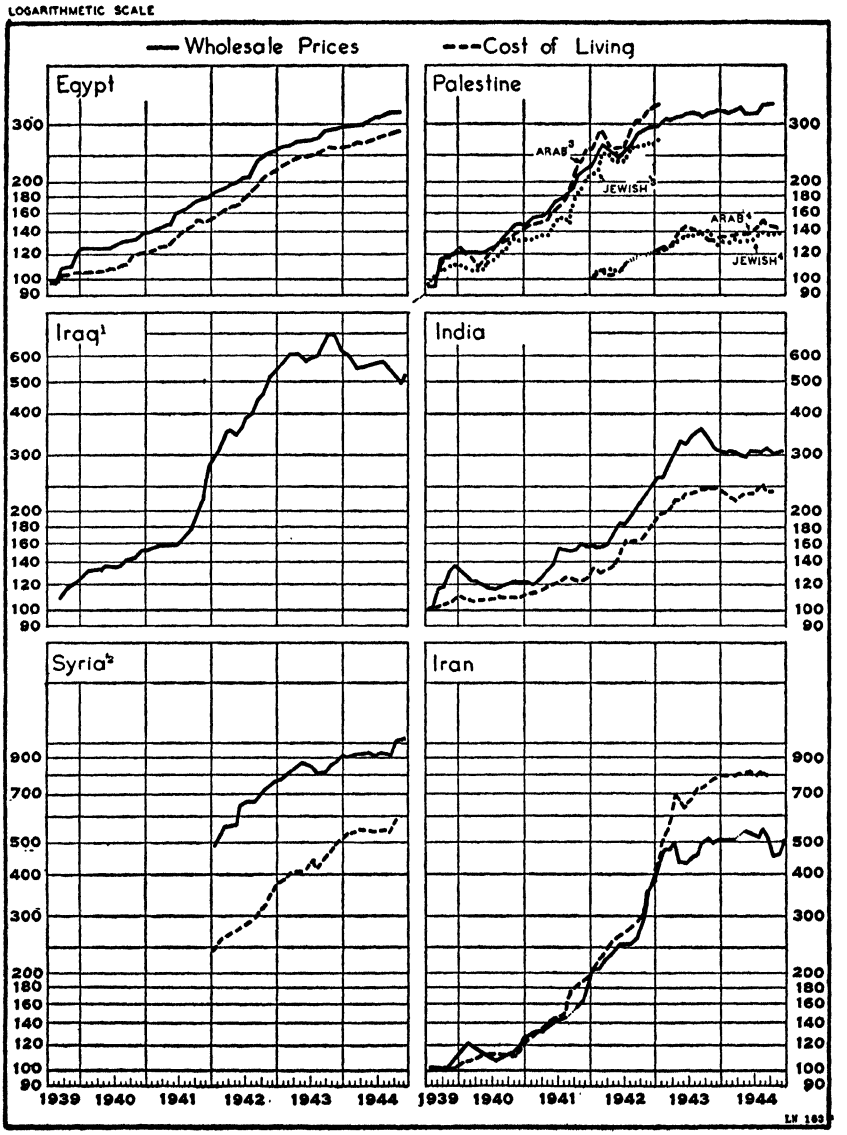


1. Mexico: cost of living: excluding rent. 2. New Zealand: cost of living: wartime index: 15/XII/42 = 100. 3. Venezuela: cost of living: foodstuffs, coal and soap only.

Diagram 1 (continued)

Wholesale Prices and Cost of Living

First half of 1939 = 100



1. Iraq: wholesale prices: XII/1938-VIII/1939 = 100. 2. Syria: wholesale prices: VI/1939 = 100. 3. Palestine: cost of living (old index): excluding clothing and rent. 4. Palestine: cost of living (new index): I/1942 = 100.

Diagram 1 (concluded)

Wholesale Prices and Cost of Living

First half of 1939 = 100



1. Turkey: wholesale prices and cost of living: 1938 = 100. 2. Bulgaria: cost of living: 1939 = 100. 3. Spain: cost of living: VII/1939 = 100. 4. Portugal: cost of living: excluding clothing and rent.

Table 2

France: Price Indices

(based on official prices only)

August 1939 = 100

	1939 Dec.	1940 Dec.	1941 Dec.	1942 Dec.	1943 Dec.	1944 April
Wholesale prices	126	157	190	227	261	270
Year-to-year % increase	—	25	21	20	15	—
Cost of living	111	130	154	184	237	256
Year-to-year % increase	—	17	18	20	29	—

In Italy, it has been estimated[1] that the purchasing power of the lira fell from a base figure of 100 in 1935 to 25 or less in 1943. A general price and wage stop was decreed at the outbreak of the war, but prices continued nevertheless to rise, with wages lagging far behind. Since the Armistice, conditions have deteriorated still further. For northern Italy only scattered information is available. The strikes for wage adjustments to the increased cost of living, and the devaluation of the lira in terms of marks by the German Government are probably indicative, however, of rapidly rising prices. In southern Italy the inflation of prices has been very serious. The bad harvest in 1943, the systematic destruction by the retreating Germans of all kinds of stocks and supplies, the breakdown of the railway system as the result of lack of coal and electric power, and the large volume of spending by Allied troops are among the causes. In a survey made by the Chamber of Labour in Rome, it is estimated that in June 1944 the cost of living of a typical working-class family in that city was 649% above the level of November 1940.[2] For the period between November 1943 and June 1944, it was calculated that the cost of living rose by more than 80%.

In southeastern Europe price movements were greatly influenced by the disequilibrium in the balance of trade between Germany and the satellite countries. Germany was increasingly unable to pay for her imports with exports of manufactured articles. The usual procedure was for the national banks to pay out local currency to exporters against the assets represented by their claims on Germany. These assets could not be used to finance imports and were, for all practical purposes, blocked. The process of advancing funds to the exporters increased the volume of money in the exporting country, while the volume of goods available for consumption declined.

In Hungary wholesale prices increased by 52% from December 1942 to October 1943. At the beginning of July 1943 the Government

[1] By the Italian economist, Einaudi, in an article published in the *Stampa* of Turin. (Quoted by the *Agence Economique et Financière*, August 31st, 1943.)

[2] *The New York Times*, July 16th, 1944, page 17.

established a comprehensive system of price and wage control, and imposed the compulsory delivery of agricultural products on the basis of a system of fixed quotas. As a concession to the farmers, and in order to ensure satisfactory deliveries to the markets, a price rise of about 30% for wheat and other agricultural commodities was decreed. As a consequence of these price increases, wage increases of comparable magnitude were also granted by the Government.

Next to Hungary, Bulgaria was the country in southeastern Europe which showed the greatest increase in wholesale prices during 1943. Prices rose by 20% from December 1941 to December 1942, and by 15% from December 1942 to August 1943.

Unofficial estimates[1] indicate that the index of retail prices in Roumania rose from 100 in August 1939 to 311 in September 1942 and to 457 in September 1943. This means a rise of 47% during the year September 1942-September 1943. However, the fortunate occurrence in 1943 of a harvest which was said to have been the best in fifty years, probably served to arrest the upward movement of prices, at least for the following few months. It is reported that the record cereal harvest and the scarcity of storage space induced Roumanian farmers to sell their products even below the official prices,[2] a phenomenon which was otherwise unheard of in wartime Europe.

There is no index available to measure the enormous inflation of prices in Greece. Figures for the expansion of the note circulation, as shown in the preceding chapter, indicate a degree of inflation which is unsurpassed in any other European country. The movement of prices for important food products is shown by the following figures:[3]

Table 3

Greece: Prices of Food Products (in drachmae)

	Oct. 1940	Aug. 1943	Dec. 1943	June 1944
Bread Oka (2⅘ lbs.)	10	7,000	34,000	2,000,000
Potatoes "	6	7,500	28,000	2,000,000
Flour "	12	14,000	38,000	.
Sugar "	19	24,000	110,000	.
Eggs (unit price)	2	1,800	10,000	.
Meat Oka	50	3,600	160,000	8,000,000
Milk "	10	7,000	30,000	.

The adjustments made from time to time in the effective exchange rate between Greece and Germany did not correspond with the inflation of prices in Greece. In order to maintain trade relations under such conditions, a German-Greek Commodity Equalization Company was created with the purpose of equalizing import and export prices

[1] Published in the *Südost-Economist*, November 26th, 1943.
[2] *Südost-Economist*, October 15th, 1943.
[3] See *Nachrichten für Aussenhandel*, December 17th, 1943 and later issues.

by imposing import levies and using the proceeds for making payments to the Greek exporters. Germany's exchange rates with the other Balkan countries were kept unchanged, and the rise in prices in these countries created difficulties similar to those encountered in Greece. A more complete discussion of the interrelations between price movements and foreign trade is given in the chapter on International Trade.

In some parts of southeastern Europe money lost much of its importance as a means of payment. This fact was officially acknowledged in Croatia, where the Chamber of Industry elaborated a complicated scheme of barter trade.[1] Farmers who delivered agricultural products in excess of their compulsory quotas were paid by the State in kind (in salt, tobacco, cigars, cigarettes and matches).

In the Middle East and India the inflation has been of dimensions that were reached in few other countries. In Syria (Beirut) wholesale prices rose by 800% from July 1939 to December 1943, but the rate of increase slowed down considerably in 1943. In Iraq prices increased by almost 600% between the first half of 1939 and the end of 1943. The Turkish index increased by about the same percentage up to June 1943, when it reached its peak. During the subsequent six months it declined, and in December 1943 the index of wholesale prices in Istanbul was actually 11% lower than a year earlier. In Iran prices in December 1943 were 406% above the pre-war average (January to June 1939). In Palestine prices more than trebled over the same period. In India the upward movement of prices continued until September 1943, when they reached a level 253% above the average for the first half of 1939. During the following three months, however, the index declined by 14%. Such data as are available indicate that in most Middle-Eastern countries prices during 1944 did not rise very much above the level reached at the end of 1943 and in some cases they declined. Only in Syria (Beirut) did wholesale prices show a greater rise in 1944 than in 1943.

The conditions which led to inflation in the Middle East do not differ essentially from those which disturbed the economic equilibrium of India. Italy's entry into the war in 1940 cut the shortest supply route. The high rate of sinking of merchant ships during 1941 and 1942 further complicated the transport situation. Wartime expenditures increased employment and wage incomes, thus bringing about additional pressure on the shrinking food supplies. In addition, there was heavy spending by the Allied Governments, and the extra purchasing power thus released was not counterbalanced by increased imports, nor was it absorbed by taxation.

The consequences of the disturbance in economic equilibrium were

[1] *Deutsche Adriazeitung,* as quoted by the *Neue Zürcher Zeitung* of April 4th, 1944.

particularly serious in areas where large parts of the population are living at or near the subsistence level. In the Middle East, shortages developed into conditions close to famine. In certain parts of India, where food prices were pushed up by the cutting off of rice imports from Burma, the situation was even more serious than in the Middle East. Peasants who were living on a very poor diet before the war met with great difficulties in obtaining manufactured goods; their incentive to sell their food produce was thus reduced; and they retained more of it for their own consumption or for hoarding.

From the second half of 1943 onwards there was, however, a marked improvement in the whole Middle-Eastern and Indian situation. In the first place, the changing course of the war caused troops to be shifted from the Near East to other theatres. Thus, Allied Government expenditures and spending by soldiers in the Middle East, though not in India, were substantially reduced. In the second place, the reopening to Allied shipping of the Mediterranean, together with the increased number of ships available, eased the supply problem both in the Middle East and in India. In the third place, price controls were tightened up. In India, price control, along with policies for forcing supplies of goods onto the market, resulted in price reductions. The example of the "cotton cloth control" may be cited.[1] After the fixing of maximum prices in June 1943, all supplies in the hands of merchants had to be stamped with the fixed price and the date of manufacture. All unstamped cloth had to be sold before January 1, 1944, under penalty of confiscation or heavy fines. In this way, the Government succeeded in forcing onto the market a large quantity of cotton cloth which had previously been hoarded by the merchants.

In the Latin-American countries, the upward movement of prices was largely the consequence of a shortage of commodities resulting from increased exports of primary goods and reduced imports of manufactured articles. This shortage of goods could only to a limited extent be met by an expansion of domestic production because of lack of the necessary equipment, and the difficulty, under wartime conditions, of obtaining it from the industrial nations.

In most of the Latin-American countries prices increased less in 1943 and 1944 than in 1942. An important factor in retarding the general upward movement of prices was the stabilization, and in some cases reduction, of prices for imported goods. This came about partly as a consequence of price-control measures in the leading industrial countries, which prevented the prices of their export goods from rising, and partly as a consequence of a decline in transport costs as the improved shipping situation led to the reduction of war-risk insurance rates.

Wholesale prices in Peru rose by only 10% during 1943, as com-

[1] *Cf. The Economist* (London), July 8th, 1944, page 51.

pared with 18% in 1942. Most of the increase in 1943 occurred during the first half of the year. During 1944 prices rose by only 1.4%. This was in large part due to the slowing-up in the increase of the prices of imported goods. The latter were more or less stable from August 1943 to May 1944.

There were, however, some important exceptions to the slowing-up of the price increase. In Mexico wholesale prices rose at an accelerated rate in 1943. Whereas the index had risen by only 9% in 1942, it rose by 26% in 1943, and in 1944 it increased by another 22%. The continuation of the rise seems to be due mostly to domestic factors, for prices of imported goods kept the level they had reached during the early part of 1942, and from April 1943 to March 1944 the value of total imports exceeded that of exports.

For several of the South-American countries only cost-of-living indices are available. Their movements were as follows:

Percentage Increase in Cost-of-Living Index

	Dec. 1941-Dec. 1942	Dec. 1942-Dec. 1943	Dec. 1943-Dec. 1944
Brazil	17	5	14
Bolivia	29	8	8
Colombia	11	19	19
Uruguay	4	2	10

In the British Dominions wholesale prices showed little variation during 1943. Except in Canada, where prices advanced by 6% in 1943, as compared with 4% in 1942, the upward movement of prices had slowed down considerably. It came to an almost complete halt during 1944, when wholesale prices in Canada, the Union of South Africa, Australia and New Zealand remained at practically the December 1943 level.

In China prices continued their inflationary rise, and it is estimated that in November 1944 they had reached a level 519 times that of the first half of 1937.[1] During the first eleven months of 1944 they rose at an annual rate of 162%, or at about the same rate as during 1943.

In Japan the official index of wholesale prices increased by 9% in 1943, as compared with only 3% in 1942. In the first ten months of 1944 there was a further rise by 12%. The increased pace of the upward movement is largely accounted for by the substantial rise in cereal prices. The Government raised the officially-fixed prices for cereals by about 30%, on the average, in order to stimulate agricultural production after the poor harvest of 1943.

[1] According to an index published by Chungking Institute of Wartime Economics.

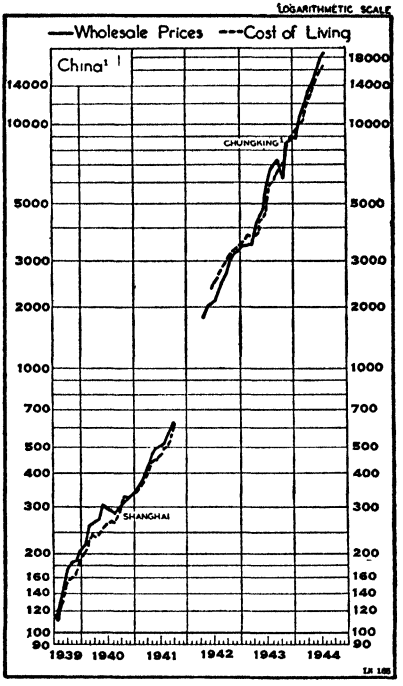


Diagram 2

China: Wholesale Prices and Cost of Living

First half of 1939 = 100

[1] Chungking (wholesale prices and cost of living) : 1939 = 100.

Price Control

In the United States the price stabilization policy was remarkably successful during 1943 and 1944. In December 1944 wholesale prices were only 1½% above the level of December 1943, compared with an increase of 2% during the previous year. The corresponding rise during 1942 had been 7%. The largest price rise in any year since December 1939 occurred in 1941, when the increase was 17%. The gradual slowing-down of the rate of increase of prices was achieved through the progressive extension of price controls by the Office of Price Administration. The proportion of commodities under O.P.A. control was greatly increased between 1941 and 1943, as is illustrated by the following figures:

	Commodities under O.P.A. Price Control: % of Total[1]
December 31, 1940	0
December 31, 1941	35
December 31, 1942	83
December 31, 1943	92

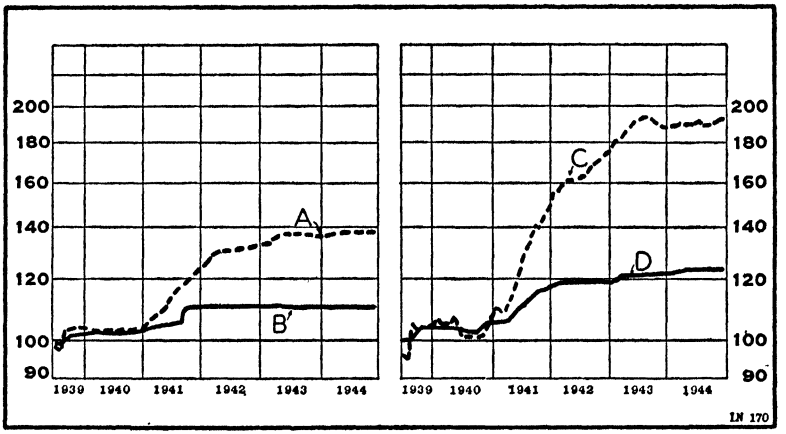
[1] *Monthly Labor Review*, February 1944, page 244. The percentages refer only to those items which are included in the Wholesale Price Index of the Bureau of Labor Statistics, but since the latter includes practically all the important items, the percentages give a fair representation of the extension of price control over all commodities. The chief omissions are rye, most types of hay, and sheep.

Diagram 3

Wholesale Prices in the United States

First half of 1939 = 100

A—General index
B—Metals and metal products
C—Farm products
D—Commodities other than farm products and foodstuffs



Prices received by farmers were exempt from control until they reached 110% of the "parity ratio"[1]—a level which, for important agricultural products, was not attained until 1943. In December 1942 the prices of only 20% of the farm products which are included in the official wholesale price index had been controlled, but in December 1943 the percentage had increased to 75, and included the prices of virtually all important foodstuffs.

Diagram 2 shows that farm products accounted for the main price advances in 1943. The substantial improvement in the position of the farmers can be seen from the fact that between August 1939 and the latter part of 1941 prices of farm products rose from 71% to 100% of the "parity ratio" and reached an average of 117% in 1943. During 1944, prices of farm products in relation to non-farm products declined slightly, the average for the year being 115% of "parity." The actual prices received by farmers were nearly twice as high in 1943 and in 1944 as they were in 1939.

From 1943 on, subsidies have been used extensively for the purpose of checking the rise in wholesale prices and the cost of living. In

[1] The "parity ratio" is the ratio between prices received by farmers and prices paid by farmers (plus interest and taxes) during the base period from August 1909-July 1914.

October 1943 the rate at which subsidies were being paid was equivalent to an annual outlay of $1,143 million. Foodstuffs and livestock accounted for 73% of the subsidies paid, metal ores 12%, transportation of petroleum products 9%, and certain other commodities 6%.[1]

The upward movement of food prices is largely responsible for the 3% increase in the wholesale price index during the first half of 1943. From June 1943 to December 1944, however, the index increased by only 0.7%. Fluctuations during the year were largely due to seasonal changes in the supply of farm products.

The cost-of-living index stopped increasing after May 1943, when it was 26% above the level of the base period January to June 1939.

During the subsequent year the index did not change appreciably. The latest available figure (April 1945) shows that it had risen by only 1.6% since May 1943.

As the War Labor Board uses the index in order to measure the increase in cost of living in connection with appeals for wage adjustments, the adequacy of the official index was challenged by various labour groups; however, the chairman of a special Cost-of-Living Committee, which had been appointed by the President to examine the question, reported in November 1944 as follows:

1. "The accuracy of the Bureau of Labor Statistics index figures for what they are intended to measure is confirmed. They are entitled to the good reputation they have long enjoyed."

2. "Under the exceptional market conditions which exist in wartime and so long as we have a sellers' market allowance should be made for hidden increase in the cost of living of probably as much as 3 and certainly not more than 4 percentage points due to quality deterioration, disappearance of cheaper goods, decrease of special sales and increases in under-reporting of prices actually charged."

3. "If the index is to be used to represent changes in the cost of living of urban workers in small as well as large cities, there should be an upward adjustment of the index figures, but not more than one-half of a percentage point."

In the United Kingdom the official index of wholesale prices increased at the rate of about 2% per year between July 1942 and July 1944. In the latter part of 1944 the index showed no further increase. The official cost-of-living index throughout the period 1942-44 was practically stable. In 1943 the prices of foodstuffs covered by the index rose slightly, but the increase on this account was more than offset by the decline in the cost of clothing due to the remission of the purchase tax on "utility clothing." The index was kept stable by means of price control, which covered practically all goods, and by means of heavy subsidies for essential goods and services entering into the

[1] *Survey of Current Business*, January 1944, page 15.

index. The total amount spent on subsidies increased from year to year as follows:[1]

	£ (millions)
1939	20
1940	70
1941	140
1942	175
1943	190
1944	220

In his budget speech of April 25th, 1944, the Chancellor of the Exchequer declared that "without these subsidies the cost-of-living index might have been 45 to 50% over the pre-war level compared with the actual increase of 28%."[2] However, he warned that the tendency towards a general upward movement of wages made it increasingly difficult for the Government to maintain prices at a stable level. Having regard to "the higher domestic costs of production, and also to import costs," he expressed the opinion "that for the ensuing year a range of the cost-of-living index of 30 to 35% over the pre-war level should be substituted for the 25 to 30% laid down by Sir Kingsley Wood in 1941." There were no changes in the cost-of-living index during the first half of 1944; however, a further rise in the price of coal by 4 shillings per ton, due to the new wage agreements of January 1944 in the coal-mining industry which came into effect on August 1st, 1944, caused an increase in the index of nearly 1% between June and September 1944.

The importance of the index as a criterion on which to base wage adjustments led to discussions concerning the extent to which the official index actually reflected the changes in retail prices since the beginning of the war. Thus the London and Cambridge Economic Service reports that, while the official cost-of-living index rose by 29% between August 1939 and June 1944, "it is, however, generally considered that this index underestimates the effective rise, which may be estimated to be about 40%."[3] It has been asserted that the index underestimates the effect of rise in the cost of living, since it omits such items as fruit and vegetables, which are not subsidized and have undergone the greatest increase in price.

In Canada the cost-of-living index has been kept practically stable since the middle of 1942, but wholesale prices rose by 4% during 1942 and 6% during 1943. The increase in the latter year was mainly due to the higher prices of farm and wood products. During 1944, however, the index was virtually stationary.

The effect of government subsidies upon prices is shown by the fact

[1] "An Analysis of the Sources of War Finance and Estimates of National Income and Expenditure in the Years 1938 to 1944," Cmd. 6623.
[2] *The Times*, London, April 26th, 1944.
[3] Royal Economic Society, Memorandum No. 99, July 1944.

that the wholesale prices of farm products have risen much less than the prices received by farmers.

Increases in Prices of Farm Products[1]

	Wholesale Prices		Prices Received by Farmers	
	March 1943-Dec. 1943	Aug. 1939-Dec. 1943	March-Dec. 1943	Aug. 1939-Aug. 1943
	Percentage Increase			
Field products	6.9	61.7	21.6	90.2
Animal products	3.8	57.2	7.0	67.2

Between November 1941, when the programme of price subsidies first came into effect, and December 31st, 1943, the total amount paid out was $128 million, of which $52 million was spent for food. The largest single non-food item subsidized was petrol, which had undergone a sharp price rise owing to increased transport costs. In 1944 the total amount of subsidies paid was $98 million.

In Australia a general price ceiling for practically all goods and services was announced by the Government on April 12th, 1943. Prices were subsidized at the level prevailing at that date. The pegging of prices did not, of course, mean that costs were also pegged. Where costs had risen on account of higher landed costs of imported goods, the replacement of sea transport by land transport, and similar factors, and where these increases could not be absorbed by reducing the profit margins of the distributors, prices were kept down by the payment of subsidies. During the second half of 1943 the cost-of-living index declined because of increased government subsidies and the reduction of the purchase tax on clothing. By December 1943 the index had returned to the level of March 1943. There were no changes during the first half of 1944. The wholesale price index likewise varied only slightly between June 1943 and June 1944. As wages are adjusted automatically to the cost of living, the success of the Government in stabilizing the price level eliminated the cause for wage adjustments.

In Eire the Government also used subsidies in the effort to prevent a rise in prices and consequently in the cost of living. For the fiscal year 1942-43, the Minister of Finance estimated that £3.6 million would be spent on subsidies for food and peat fuel. The cost-of-living index had risen sharply since the beginning of the war. In November 1943 it was 70% above the average for January to June 1939. During the subsequent twelve months, however, the index did not change appreciably. The main reasons for the price rise up to the end of 1943 were the higher costs of imported goods, and the higher agricultural

[1] Source: *Report of the Wartime Price and Trade Board, April 1st, 1943, to December 31st, 1943, Ottawa, 1944.*

prices, which were raised by the Government in order to stimulate production.[1]

In Sweden both wholesale prices and the cost of living have been practically stable since the end of 1943. The stability is likewise due to price and wage control, and to Government subsidies amounting to about 220 million kronor per year.

Germany has a system of price control which is perhaps more rigid than that of any other country. Official price indices showed no significant changes during 1943 and the first three-quarters of 1944. In 1943 price control was continued along very much the same lines as in 1942; however, as factories working on Government orders were receiving prices for their products corresponding to their costs, widely divergent prices existed for the same article. From November 1941 onwards the attempt was made to replace the cost price by a system of uniform and group prices (*Einheits-und Gruppenpreise*).[2] These new prices were fixed by government committees without prior negotiation. The main purpose of the new system was to create an incentive for the lowering of production costs; since prices were fixed at the same level for whole groups of plants, a differential profit was achieved by those factories which produced most efficiently. Pressure to lower production costs still further was exercised by government orders reducing uniform and group prices.[3] The new system was originally applied to armaments contracts only, but was later extended to cover a wider field. Between November 1941 and November 1943 prices were fixed for 16,770 different products.[4]

The scarcity of consumers' goods was reflected in large increases in the prices of second-hand goods, amounting to several hundred per cent since the beginning of the war. In 1943, however, it was reported that price control had been extended to second-hand goods, which henceforth were to be officially valued before sale. Barter trade was increasing in importance.

Wages and Wage Control

In the United States a comprehensive system of wage control was established in October 1942, and further measures for stabilizing wages were taken subsequently. Thus, in April 1943, the War Labor Board was directed not to grant further increases except in the case of (1) "sub-standard wages," (2) adjustments in accordance with the "Little Steel formula,"[5] and (3) promotions, reclassifications, merit increases, or incentive wages. In its decision of November 25th,

[1] *The Economist* (London), December 11th, 1943.
[2] *Deutsche Wirtschafts Zeitung*, March 19th, 1943, page 115.
[3] *Deutsche Wirtschafts Zeitung*, March 12th, 1943, page 97.
[4] *Die Deutsche Volkswirtschaft*, 3. Novemberheft, 1943, page 1021.
[5] In the so-called "Little Steel formula," wage increases up to 15% were authorized as compensation for the cost-of-living increase between January 1941 and May 1942.

1944, the Board again rejected demands of the Steel Workers' Union for rises in pay in excess of what was allowed by the Little Steel formula, since such increases were beyond the Board's authority to grant under the existing wage stabilization policy; however, various concessions concerning increased pay for work on night shifts, more liberal vacation and holiday pay, and the elimination of intra-plant inequalities, were granted on condition that these adjustments would not require any change in price ceilings.[1]

The movement of wages in manufacturing industry is shown below. Between January 1939 and January 1944 weekly money earnings of factory workers increased by 95.3%. This increase may be explained as follows:

	Percentage Increase
(a) Increase in average hourly earnings due to:	
(i) rise in basic wage rates	36.4
(ii) shifts of workers to better-paid jobs	13.0
(iii) extended work on overtime	9.1
Total increase in average hourly earnings	58.5
(b) Increase in average number of hours worked per week	23.2
(c) Increase in total weekly earnings due to (a) and (b)	95.3

In January 1945 average weekly earnings were 104.9% above the level of January 1939. Basic wage rates had risen by 5.2% since January 1944 and were 43.5% higher than in January 1939.

It must be kept in mind that the figures given above reflect only approximately the changes which have occurred since January 1939. Thus, for example, they take no account of such factors as the influx of inexperienced workers into the factories and changes in the age and sex composition of the employed labour force. If allowance is made for the rise in the cost of living of 27% up to January 1945, the increase in real weekly earnings appears to be about 62%. But this figure still overstates the increase in the actual consumption of the average worker, since it ignores the increase in the tax burden, war bond purchases, and other savings.

For Great Britain the Ministry of Labour estimates that average basic wage rates in industry and agriculture increased by between 4 and 5% during 1943. From October 1938 to July 1944 wage rates rose by about 52% and average weekly earnings of wage-earners

[1] See text of National War Labor Board's order, *New York Times*, Nov. 26th, 1944. The policy of not granting wage increases going beyond the "Little Steel formula" was confirmed by a later report to the President by the public members of the Board. They pointed out that while average basic wage rates had increased by 36.7% between January 1941 and October 1944, cost-of-living essentials had risen during the same period by less than 30%. As wages had advanced faster than average retail prices no change in the "Little Steel formula" seemed to them to be justified. See *New York Times*, February 23rd, 1945.

in manufacturing and certain non-manufacturing industries by about 82%.

In both the United States and Great Britain agricultural wages increased proportionately more than industrial wages. In Great Britain minimum farm wages were raised in 1942 from 48 shillings to 60 shillings a week, and in 1943 a further increase of 5 shillings was granted.[1] In the United States the average monthly and daily farm wage rose by 160% during the five years from July 1939 to July 1944. As the following indices show, however, farm wages in the United States had not, even after this increase, reached the same position relative to industrial wages as they held before World War I.[2]

United States: Wage Indices

	Farm Wages (Average of daily and monthly rates)	Industrial Wages (Average hourly earnings)		
		Manufacturing	Mining	Building
1910-14	100	100	100	100
July 1939	126	306	259	301
July 1943	273	471	337	365
July 1944	328	(498)	...	369

In Germany there has been practically no change in the hourly earnings of wage-earners since the beginning of the war, though, of course, average weekly earnings have moved upwards with the lengthening of the working week.[3] There is, however, considerable doubt as to whether the official wages quoted are in conformity with those actually paid. The *Frankfurter Zeitung*[4] declared that "it is useless to point out that statistical wages of farm workers are hardly higher than a few years ago," because "competent workers have to be paid more than the agreed wages."

From the experience of the three countries just considered, it appears that the inflationary pressure of wages has come more from the higher level of employment, the longer working week, overtime pay, incentive pay, and shifts of workers from the consumption-goods industries to better-paid employment in industries producing war materials, than from the rise in hourly wage rates. It should, of course, be kept in mind that, owing to heavier taxation, rationing, war bond purchases, etc., the rise in weekly earnings has not been accompanied by a similar increase in spending.

In Canada, following the establishment of a wage ceiling in Decem-

[1] *Ministry of Labour Gazette*, January 1943 and January 1944.

[2] *Monthly Labor Review*, January 1944 and later issues. The figures given under "building" refer to union hourly wage rates of building labourers. The figure for "manufacturing" in July 1944 is a rough estimate.

[3] *Cf.* René Livchen, "Wage Trends in Germany from 1929-1942," *International Labour Review*, December 1943.

[4] Quoted in *The Economic Journal*, December 1943, page 377.

ber 1941, wage adjustments were linked to movements in the official cost-of-living index. In order to stabilize wages more strictly, a new wartime wages control order becoming effective on February 15th, 1944[1] was issued, merging the existing cost-of-living bonus with the basic wage, and thus establishing a new basic wage rate. The Government announced that should the cost-of-living index rise by more than 3%, and remain at that level for two consecutive months, it would review its price and wage stabilization policy. During 1944, however, the index was stable.

In Sweden wages are not fixed by governmental order, but are subject to collective agreement between the Employers Association and the Federation of Labour. The latest agreement, concluded in January 1944, continues the cost-of-living allowance amounting to about 20% of the basic wage in 1938. Provision is made for further increases in this allowance in the case that the index rises above a certain level. In fact, the index was practically stationary during 1943 and 1944.

In Switzerland wage adjustments are based on an "expenditure index" prepared by a governmental committee. In contrast to many of the existing cost-of-living indices, the expenditure index takes account, not only of price changes, but also of variations in consumption. In August 1943 it was recommended that, to compensate for the price increase between August 1939 and December 1943, cost-of-living bonuses should be granted varying from 47% (taking the pre-war family income as 100) for the lower-income groups, to 28% for those with annual incomes of Swiss francs 6,000 and over.[2] A comparison of these allowances with the rise in the cost of living of 50% over the same period shows that the committee's recommendations provide compensation for 94% of the increase in the cost of living for workers with pre-war family incomes up to Swiss francs 3,000. The percentage declines for higher incomes until it reaches 56% for those with an annual income of over 6,000 francs. In December 1943, the average wage increase obtained by industrial workers since August 1939 amounted to about 35%, compared with a rise in the cost of living of 50%.

In France, since prices went on rising rapidly during 1942 and 1943, the Government's wage stabilization policy was bound to fail. Wage increases were decreed by the Government in October 1942 and April 1943, but even after these increases there remained a considerable discrepancy between the level of the wage index and the level of the official cost-of-living index. The index of average hourly earnings in September 1943 was 43% above the average of 1938, whereas the cost-of-living index, based on official prices only, showed an increase

[1] *International Labour Review*, June 1944, page 675.
[2] *Basler Nachrichten*, February 17th, 1944.

of 109% for the same period. The deterioration in the standard of living in France in 1943 is apparent from a German report which states that Paris workers in that year spent about 70% of their total income on food.[1]

The picture was about the same in other Axis-occupied countries. In September 1943 average hourly wages in Belgium were 44% above the average of 1938, whereas the increase in the official cost-of-living index was 62%. The corresponding figures for the Netherlands were a 9% increase in wage rates and a 40% increase in the cost of living.[2] In Greece, where the inflation was proceeding at a very rapid rate, the Government raised wages by 100% on May 1, 1944.[3]

After the liberation of France, new wage adjustments were reported. One of the first measures taken by the new Provisional Government of France was to raise the general wage level by about a third. The wages of coal miners were increased by two-thirds. Since, before the invasion, the wage index was already 43% above the average for 1938, the new increase brought it to a level nearly double that of 1938.

In China, there is an index of hourly money wages for industrial workers in Chungking. In March 1944, this index stood at 12,865% of the level of January-June 1937, while the index of real wages, owing to the still greater rise in commodity prices, had fallen to 40% of that level.[4]

[1] *Die Wirtschaftskurve*, July 1943.
[2] *The Economist* (London), June 10th, 1944.
[3] *Südost-Echo*, May 19th, 1944.
[4] *International Labour Review*, February 1945.

CHAPTER VI

INTERNATIONAL TRADE

During the last three years blockade lines have separated German-dominated Europe and Japan-dominated Asia from the rest of the world. International trade has consisted chiefly of trade among the countries within each of the three areas in question. It may be estimated that trading channels which have been cut by the war were responsible for about a third of international trade in peace-time.[1] Along the trading channels that remain open more goods may have moved than in peace-time; but the nature of these goods has changed. War materials and civilian supplies essential for carrying on the war have predominated; and the flow of goods has accordingly been chiefly in the direction of the countries making the greatest war effort or forming bases for military operations. The resulting changes in the balances of trade would have been sufficient to make the financing of trade by traditional methods impossible. But the bulk of the goods has been moved under government arrangements having little in common with peace-time commerce. Difficulties concerning payment have not been allowed to interfere with the flow of goods. Even commercial transactions proper have been closely regulated by governments. The limits to trade have been set less by prices and the foreign exchange resources available to the buyer than by strategic considerations and the availability of materials and transport facilities. As a result, price equilibria and financial relationships among countries have been affected in such a way as fundamentally to alter the basic conditions which governed international trade in the past.

The statistical information relating to trade during the last few years is incomplete, and international comparison is further hampered by the difficulty of expressing recorded trade values in a common unit, by differences in the extent to which prices have risen in different areas, and by the growth of non-commercial transactions, such as mutual aid among the United Nations and the open or masked exaction by Germany and Japan of tribute from areas under their control. For general information about the available statistics of trade values (converted into U.S. dollars), the reader is referred to the Annex, which may with advantage be read in conjunction with the descriptive analysis in the following pages.

The United Nations Trading Area

United States

Indices of the quantum, unit price and total value of United States imports and exports converted to a 1938 base are shown in Table 1.

[1] *Cf. Canada Yearbook*, 1942, pages 446-7.

Table 1. United States: Indices of Merchandise Trade (1938 = 100)

	1939	1940	1941	1942	1943	1944
Imports (for consumption):						
Value	117	130	165	142	173	198
Unit value (price)	102	108	116	137	145	157
Quantum	115	120	143	104	119	126
Exports (domestic produce):						
Value of total exports	102	129	164	261	414	459
Value of commercial exports	102	129	140	100	81	93
Unit value (price)	98	105	112	141	151	171
Quantum of total exports	105	123	147	185	274	268

Throughout the war years the quantum of imports has been well above that of 1938,[1] though in 1942-1944 it was far from reaching the peak level of 1941. Prices of imports as well as of exports have increased steadily, with an exceptionally large rise in 1942. In December 1944 import prices were on the average 56% and export prices 77% higher than in 1938. There has been a rapid increase in exports; their quantum in 1944 was almost three times and their value over four times as much as in 1938. This increase, however, was due entirely to lend-lease exports; the value of commercial exports in 1944 was only 93% of what it had been in 1938 and their quantum, assuming the same price movement in lend-lease and commercial exports, was about 45% lower than in 1938 and thus well below the figure for any of the depression years of the early 1930's. The relative importance of lend-lease and commercial exports is shown in Diagram 1. It will be observed that one year after their initiation in March 1941 lend-lease exports had attained the same value as commercial exports, and in the third quarter of 1943, when they appear to have reached their peak, they were between four and five times the commercial exports. In the course of 1943, however, the downward movement which had characterized commercial exports during the first year and a half after the entry of the United States into the war, came to a halt.

In 1938 the areas under German and Japanese control provided over 40% of United States imports and absorbed about 35% of her exports. On the basis of these figures and the indices in Table 1, it may be estimated that the quantum of imports from the areas still open to the United States in 1943 was twice as great in that year as in 1938, while the quantum of *commercial* exports to the same areas was 10-15% less than in 1938.

The inequality of these movements is reflected in the balance between imports and commercial exports (shown in the last line of Table 2).[2]

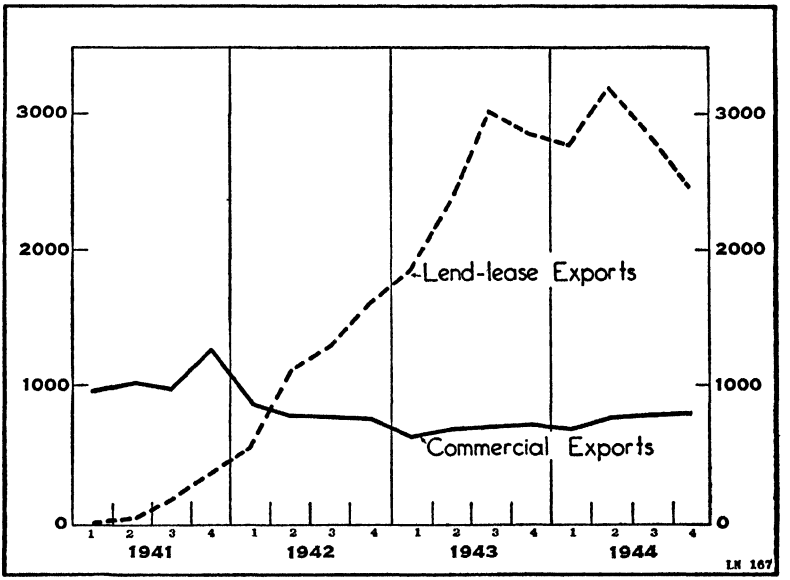
[1] The quantum of imports was unusually low in 1938—18% below the level of 1929 and 28% below that of 1937.

[2] This balance, it should be observed, cannot be regarded as closely representative of the balance of commercial payments, since certain imports (for instance

Diagram 1

United States Commercial and Lend-Lease Exports

Domestic produce. Quarterly movement in $(000,000's)



The excess of commercial exports over imports declined steadily between 1940 and 1942 and was replaced by an excess of imports of nearly $900 million in 1943 and of $1,015 million in 1944. This change represents one, though not the only, factor accounting for the decline in the United States gold reserve and for the accumulation of foreign-owned dollar balances. In the course of 1943 and 1944 the

Table 2. United States Merchandise Trade in $ (000,000's)

	1940	1941	1942	1943	1944
Imports for consumption	2,541	3,222	2,769	3,381	3,870
Exports (domestic produce):					
commercial	3,934	4,279	3,066	2,484	2,855
lend-lease	—	741	4,894	10,107	11,287
Excess of commerical exports over imports	1,393	1,057	297	—897[a]	—1,015[a]

[a] Excess of imports over commercial exports.

gold reserve of the Federal Reserve System fell, on account of exports and earmarking for foreign account, from $22,726 to $20,619 million, or by $2,107 million, while there was a net inflow of capital

imports of wool from Australia) represent "lend-lease in reverse." On the other hand, the recorded imports to do not include certain goods purchased and stored abroad for United States account.

in these two years, mainly in the form of banking funds, of $1,641 million.

Imports from the Latin-American republics accounted for 40% of all United States imports in 1943, and in the first half of 1944, as against only 23% in 1938. Trade with these republics in 1943 showed an import balance of over $500 million; and during the first half of 1944 the import balance was $320 million, or 50% more than the figure for the corresponding period of 1943.

In regard to commercial policy, the United States continued her programme of reciprocal trade agreements by concluding new agreements, becoming effective in 1943 and 1944, with Mexico, Iran and Iceland. The necessity for synchronizing commercial policy with the war effort led to a stiffening of attitude towards certain non-belligerent countries; thus, in the course of 1943 steps were taken to reduce exports to the Argentine; and in January 1944 Caribbean oil shipments to Spain were temporarily suspended until, three months later, Spain agreed to reduce her exports of wolfram ore to Germany.

Goods consigned to United States armed forces overseas are not, of course, entered in the trade statistics. United States lend-lease exports of goods represent the bulk (for the period up to the end of 1944, 76%) of the United States lend-lease aid, the rest consisting of goods transferred to foreign ownership but remaining in the United States, and of services. Details of the composition of this aid are shown in Table 3.

Table 3. United States Lend-Lease Aid in $ (000,000's)

	1941	1942	1943	1944	Total 1941-1944
Goods					
Munitions, motor vehicles, etc.	267	3,442	7,047	7,376	18,132
Industrial materials and products ..	272	1,299	2,575	4,177	8,323
Agricultural products	371	897	1,266	2,421	4,955
Total transfers	910	5,638	10,888	13,974	31,410
Of which exported[a]	741	4,894	10,107	11,287	27,029
Services					
Servicing and repair of ships ...	98[b]	167	142	125	532
Rental of ships, ferrying of aircraft	127[b]	709	615	1,254	2,705
Production facilities in the United States	108[b]	446	51	24	629
Miscellaneous	1[b]	49	37	20	107
Total services	334	1,371	845	1,423	3,973
Total lend-lease aid[c]	1,244	7,009	11,733	15,397	35,383

Note: Since the table was prepared, figures have become available for lend-lease aid during the first three months of 1945, amounting to $3,590 million, of which goods transfers 3,397 (thereof exported 2,031) and services 193.

[a] The difference between the amounts shown in this and the preceding line represents "goods transferred but not exported."

[b] Partly estimated.

[c] Not including the value of goods awaiting transfer or in the process of manufacture.

Of goods delivered, the share of war material proper (headed "Munitions, motor vehicles, etc." in the table) increased from 29% in 1941 to 65% in 1943, but fell off again to 53% in 1944, owing to increased deliveries of industrial and agricultural products. In this latter year such products delivered under lend-lease exceeded total commercial exports by 130%.

Table 4. United States: Geographical Distribution of Lend-Lease Exports March 1941-November 1944 inclusive

$ (000,000's)

Munitions, etc.	United Kingdom	U.S.S.R.	Africa, Middle East and Mediterranean area	China and India	Australia and N. Zealand	Other countries	Total
Ordnance and ammunition ..	1,714	768	679	249	132	164	3,706
Aircraft	1,965	1,376	806	502	295	494	5,438
Tanks	983	398	620	118	55	44	2,218
Motor Vehicles	589	1,014	448	253	178	74	2,556
Watercraft	242	183	51	36	11	23	546
Total	5,493	3,739	2,604	1,158	671	799	14,464
Industrial material and products							
Machinery	528	980	147	234		38	1,927
Metals	727	756	192	251		30	1,956
Petroleum products	1,071	66	78	207		13	1,435
Other products	513	599	257	224		39	1,632
Total	2,839	2,401	674	475	441	120	6,950
Agricultural products							
Foodstuffs	2,440[f]	1,151	226	129		32	3,978
Other products	560	146	20	35		2	763
Total	3,000	1,297	246	127	37	34	4,741
Total lend-lease exports	11,332	7,437	3,524[a]	1,760[b]	1,149[c]	953[d]	26,155[e]

[a] Of which munitions etc. delivered to French authorities in Algeria and French Morocco up to the end of 1943, 322.

[b] Of which China, up to June 30th, 1944, 154 (not including the consignments mentioned in note *e*).

[c] Up to the end of 1943 about four-fifths of the total went to Australia.

[d] Of which Latin-America, 208; of the remainder (745) about two-thirds went to Canada for transshipment to the United Kingdom, for further fabrication or for use of United Nations forces training in Canada.

[e] This amount does not include goods consigned to United States Commanding Generals in countries receiving lend-lease aid. The value of such goods up to December 31st, 1944, amounted to $788 million, of which (up to November 30th, 1944) $498 million were for subsequent transfer to French forces in North and West Africa, $248 million to China and $25 million to other countries.

[f] The foodstuffs sent to the United Kingdom up to June 30th, 1944, (2,144) represented about 10% of that country's total food supply.

Table 4 gives further details of the composition of lend-lease exports and their destination over the whole period 1941-1944. The United Kingdom and the U.S.S.R., it will be seen, were the chief recipients, particularly of industrial and agricultural goods. Of the total quantity of foodstuffs sent, the United Kingdom absorbed 61% and the U.S.S.R. 29%.

Against the lend-lease aid furnished by the United States stands lend-lease aid received since the early part of 1942 by the United States from her allies. The bulk of this has consisted, however, of military equipment, foodstuffs and services delivered to United States armed forces overseas and thus not recorded in trade returns. The value of such "reverse lend-lease aid" furnished to the United States by the British Commonwealth up to the end of 1944, amounted to $4,656 million, of which sum over half represented aid received in that year. (Tables 5a and 5b.)

Table 5a. Reverse Lend-Lease Aid Furnished the United States by the British Commonwealth

	$ (000,000's)			
	To end of 1943	January-June 1944	July-December 1944	Cumulative to December 31st, 1944
From the United Kingdom:				
Goods and services transferred outside the United Kingdom	161	187	249	597
Goods and services transferred in the United Kingdom	572	456	550	1,578
Shipping services	274	82	96	452
Airports, barracks, hospitals, etc.	556	148	21	725
Total	1,563	873	916	3,352
From: Australia	362	185	173	721
New Zealand	92	39	40	171
India	107	126	179	412
Grand Total	2,124	1,223	1,309	4,656

On a smaller scale, reverse lend-lease aid has also been received by the United States from other Allied powers. Aid given to the armed forces in French North and West Africa and New Caledonia up to October 1st, 1944, is estimated at $47 million.

Mention may also be made here of "mutual aid" among powers other than the United States. Thus the United Kingdom has given such aid, in the form of goods and services, to other allies and to two neutral countries (Portugal and Turkey). The amount given up to the middle of 1944 was valued at $1,914 million. Details of the mutual aid supplied by the United Kingdom (including that to the United States) are given in Table 6. When comparing these figures with

Table 5b. Composition of Reverse Lend-Lease Aid Furnished by Australia, New Zealand and India to December 31st, 1944

	$ (000,000's)		
	Australia	New Zealand	India
Foodstuffs	172	80	31
Military Supplies and Equipment	210[a]	29	221
Shipping Services and Shipbuilding	66	9	5
Transportation and other Services	131	25	33
Construction	142	28	122
Total	721	171	412

[a] Of which $55 million are for Air Force supplies and equipment.

Note (Tables 5a and b): Conversion from sterling and Australian and New Zealand pounds has been made at the official rates of exchange (1£ sterling = $4.03; 1£A = $3.23; 1£N.Z. = $3.25). The figures for India refer to aid provided both by the United Kingdom and by the Government of India, as estimated by the United States Army; they do not include raw materials and foodstuffs shipped to the United States.

those for United States lend-lease account should be taken of the fact that the British products are recorded at prices which are as a rule substantially lower than those prevailing in the United States.

Canada's deliveries on a non-cash basis to her allies (chiefly the United Kingdom) up to the spring of 1944 amounted to Can. $2,700 million.[1]

Table 6. United Kingdom: Value of Mutual Aid Rendered up to June 30th, 1944

	£ (000,000's)		$ (000,000's)[a]
Receiving country	To June 30th 1943	July 1st, 1943-June 30th, 1944	Total to June 30th, 1944
United States	.	.	605	2,437[b]
U.S.S.R.	179	90	269	1,086
Poland	.	.	120	484
Turkey	6	15	21	83
Czechoslovakia	13	6	19	75
France	14	.	14[c]	55
Greece	7	5	12	50
Portugal	.	11	11	45
China	.	.	9	36
Total	.	.	1,080	4,351

[a] Converted at the rate of $4.03 to the £.
[b] For details see Table 5a.
[c] Up to June 30th, 1943, only.

A decline in non-commercial deliveries may occur in 1945. It is anticipated that after 1944 certain raw and semi-manufactured materials such as iron and steel will no longer be provided by the United

[1] *Cf.* page 255.

States to the United Kingdom under lend-lease. Further, an arrangement which went into effect when Germany was defeated provides for a reduction in lend-lease aid to the United Kingdom by 43% of its present rate, to a total of $5,500 million during the ensuing twelve months. Of this amount, $2,700 million will represent munitions and $2,800 million other items, including petroleum products to the value of $800 million for the Allied oil pool, and a considerable amount of shipping and of raw materials for making munitions. It is also proposed to ship prefabricated houses (valued at $60 million) and increased quantities of foodstuffs for the United Kingdom. The arrangement takes into account the need for reviving British export trade, and anticipates the reconversion of war industries in the United States and the United Kingdom at an equal rate so that no "undue competitive advantage" will accrue to the exporters of either country.

United Kingdom

The sterling value of the United Kingdom's retained imports more than doubled between 1938 and 1943, owing to the fact that imports from the United States chiefly on lend-lease were more than nine times as great. The quantum of imports in 1943, however, was only 18% higher than in 1938 and if munitions are excluded, was 21% less than in 1938 (Table 7).

Table 7

United Kingdom: Imports and Re-exports 1938-1943

£ (000,000's)

Imports from:	1938	1939	1940	1941	1942	1943
British countries	371.5	358.1	548.5	515.0	482.1	556.9
United States	118.0	117.3	275.3	409.0	535.5	1,099.7
Other countries	430.0	410.1	328.3	221.1	118.0	218.1
Total	919.5	885.5	1,151.1	1,145.1	1,205.6	1,874.7
Deduct re-exports	61.5	46.0	26.0	12.7	10.7	10.1
Retained imports	858.0	839.5	1,126.1	1,132.4	1,194.9	1,864.6
Ditto, excluding munitions[a]	.	.	.	.	998.5	1,211.4
Price index (total retained imports)	100	101	139	159	166	185
Quantum index:						
Total retained imports ..	100	97	94	83	84	118
Ditto, excluding munitions	.	.	.	.	72	79

[a] Excluding imports and re-exports by Government departments of aircraft and other vehicles and parts (except rubber tires and tubes for road vehicles), arms, ammunition, and military and naval stores.

Heavy quantitative reductions are recorded for feeding-stuffs, sugar, dairy products, fruit and vegetables, iron ore, wood and paper

products. The weight of "dry cargo" imported from countries other than Ireland has declined since the middle 'thirties by over a half:

	Long tons (000,000's)					
	1934-38 average	1940	1941	1942	1943	1944 Jan.-June
Food	22.0	18.8	14.7	10.6	11.5	5.4
Raw materials	26.0	21.5	15.0	11.5	12.8	6.1
Finished goods, munitions, tobacco, etc.	7.0	1.0	0.8	0.8	2.0	1.3
Total	55.0	41.3	30.5	22.9	26.4	12.8

It may be noted that the totals for 1942 and 1943 (22.9 and 26.4 million tons respectively) were well below the corresponding figures for 1917 and 1918 (34 and 30 million tons).

The complete subordination of exports to the war effort in the United Kingdom, which began when the United States inaugurated the policy of lend-lease, is very clear from the figures for the last two years. Exports in 1944, excluding munitions, were lower than in 1938 by 45% in value and 69% in quantum (Table 8).

Table 8

United Kingdom: Exports 1938-1944[a]

	1938	1939	1940	1941	1942	1943	1944
Value in £ (000,000's)	470.8	439.2	411.2	365.4	270.9	232.8	258.0
Value index	100	93	87	78	58	49	55
Price index	100	99	120	138	157	171	178
Quantum index	100	94	73	56	36	29	31

[a] "Munitions" exported to Governments of other countries are excluded in 1942-44. Exports to such Governments of military goods other than those defined as munitions, and of other articles sent for purposes directly connected with the war are included throughout. Stores shipped abroad to British Forces are excluded throughout.

Commercial exports are strictly regulated, the export of goods which do not make great demands on manpower being favoured. Thus, exports of spirits have been continued, and exports of textiles, which are produced mainly by female labour, have declined less than those of engineering products.

In 1944 exports of coal, iron and steel represented only 7% of their 1938 quantum, vehicles (other than military) 13%, machinery 42%,[1] woollen yarns and manufactures 31%, cotton yarns and manufactures 33%, and all manufactured goods taken together 34%. Exports of rayon products, which the importing countries could no longer obtain from Continental Europe or Japan, were at the exceptionally high level of 130%.

[1] This figure would have been lower had it not been for supplies of machine tools, electrical machinery, etc., sent to the U.S.S.R.

Table 9

United Kingdom: Exports of Certain Textile Products

	1938	1939	1940	1941	1942	1943	1944
Cotton: yarn (thousand cwt.)	1,098	1,015	596	258	167	171	175
piece goods (million sq. yds.)	1,386	1,393	976	783	485	374	434
Wool: tops (million lbs.) ...	32.5	33.8	28.5	16.2	11.7	8.2	5.0
yarn (million lbs.)	34.7	32.0	17.7	13.2	10.5	9.0	8.7
tissues (million sq. yds.) ..	96	98	86	91	77	46	36.0
Rayon: yarn (million lbs.) ..	8.0	7.0	14.9	20.2	16.3	13.8	15.6
piece goods (million sq. yds.)	63	75	85	91	116	76	91

Table 10 shows the geographical distribution of exports in 1938, 1943 and 1944. Exports to the areas open to British trade in 1944 fell below 1938 by 22% in value and 56% in quantum.

Table 10

United Kingdom: Geographical Distribution of Exports in 1938, 1943 and 1944

	£ (000,000's)					
	1938	1943	1944	1943 at 1938 prices	1944 at 1938 prices	Col. 5 as percentage of Col. 1
Enemy and enemy-occupied countries:	(1)	(2)	(3)	(4)	(5)	(6)
in Europe	117.4	0.3[a]	2.7[a]	0.2	1.5	1
in Asia	25.8	—	—	—	—	—
Total	143.2	0.3	2.7	0.2	1.5	1
Other areas:						
Europe and Mediterranean countries	67.4	48.5	62.2	28.4	34.9	52
Rest of Africa	63.3	47.6	55.7	27.8	31.3	49
Asia	50.1	24.0	34.1	14.0	19.2	38
Oceania	58.1	40.1	46.6	23.5	26.2	45
North America	44.6	43.1	40.1	25.2	22.5	50
Latin America	44.1	29.2	16.7	17.1	9.4	21
Total "Other areas"	327.6	232.5	255.4	136.0	143.5	44
Grand total	470.8	232.8	258.1	136.2	145.0	31

[a] Including ships sold to Allied Governments and, in 1944, exports to liberated areas.

Note: The figures by areas in cols. (4) and (5) are only approximate (the calculation is based on the assumption that the prices of exports to each area increased in the same proportion as average prices of all exports, *i.e.*, by 71% in 1943 and 78% in 1944).

Owing to the decline in her exports and her heavy war expenditures in India and elsewhere, the United Kingdom has continued to

suffer from a serious deficit in her current balance of payments, though this deficit is less than it was before lend-lease aid was received on a large scale. From a maximum of £797 million in 1941 this deficit or "oversea disinvestment" fell to £632 million in 1942 and £655 million in 1943. The total "disinvestment" from the beginning of the war to the middle of 1944 amounted to £3,365 million, of which £1,065 million represented the net sale of assets overseas and £2,300 million the increase in oversea liabilities, chiefly in the form of "blocked sterling balances":

	£ (000,000's)		
	Net sale of oversea assets	Increase in oversea liabilities	Total
September 1939-December 1941	955	765	1,720
January 1942-June 1944	110	1,535	1,645
Total	1,065	2,300	3,365

In July 1944 it was anticipated that the blocked sterling balances (including balances which were outstanding at the beginning of the war) would reach about £3,000 million ($12,000 million) at the end of the year.

The geographical distribution of the deficit incurred has been uneven. While the United Kingdom's major pre-war debtors, India, Canada, and the Union of South Africa, have repatriated practically all their long-term sterling debt (and India has in addition accumulated a heavy sterling balance in London), the liquidation of British investments in Oceania and Latin America has been relatively small.

British Dominions and India

Both Canadian imports and exports have increased rapidly during the war. The quantum of imports in 1944 was probably about twice, and that of exports three times, as great as before the war. The rise in export values and an export balance of over Can. $1,680 million in 1944 (as against $160 million in 1938) were due to increased deliveries of war materials. Armaments represented over a third of Canadian exports in 1943. A large proportion of the remaining exports, as well as of imports, was more or less directly concerned with the war effort. In the last issue of this *Survey* an account was given of the manner in which war deliveries were financed up to March 1942, when a gift of $1,000 million was granted to the United Kingdom to offset claims on that country that were likely to arise during the following twelve months. The gift was in fact exhausted by the end of 1942; thereafter the immediate dollar requirements of the United Kingdom in Canada were met by the sale (for Can. $200

million) of British war plants in the Dominion. On May 21st, 1943, Canada appropriated another Can. $1,000 million for a programme of mutual aid involving the provision of goods to Allied Powers on a basis similar to United States lend-lease. Owing to an increase in the share of Canadian armament production that had to be reserved for the use of Canadian forces abroad, this amount was drawn upon less rapidly than the sum appropriated in 1942. The appropriation for mutual aid in the budget for the fiscal year beginning April 1944 was $800 million.[1] Total exports to the United States exceeded those to the United Kingdom in the years 1942-44. (Table 11.)

Table 11

Canada: Merchandise Trade, in Can. $ (000,000's)

	United States	United Kingdom	Rest of British Commonwealth	Other Countries	World
General imports					
1938	425	119	67	66	677
1941	1,005	219	141	84	1,449
1942	1,305	161	112	66	1,644
1943	1,424	135	103	73	1,735
1944	1,447	111	110	91	1,759
Domestic exports					
1938	270	340	103	124	837
1941	600	658	220	143	1,621
1942	885	742	412	324	2,363
1943	1,149	1,033	369	420	2,971
1944	1,301	1,235	386	518	3,440

Australia and New Zealand in 1942 and 1943 imported considerable amounts of war material, largely under lend-lease, and diverted otherwise exportable products to the use of Allied troops within their frontiers. New Zealand imports increased by over three-fourths in value in 1943, and, as exports simultaneously fell off from the record level of 1942, a heavy import balance resulted. Even in 1944 imports exceeded exports. Nevertheless, owing to the sale of goods and services to Allied troops, the amount of foreign currency held by New Zealand continued to increase during these two years, though at a lower rate than in 1942 (see Chapter IV).[2]

The fact that the Australian balance of payments has also been favourable is shown by the increase in the London funds of the

[1] Including Canada's contribution to the United Nations Relief and Rehabilitation Administration.

[2] In this connection, attention should be drawn to the item "American personnel receipts" which, during the twelve months ended June 30th, 1943, contributed £4.6 million (net) to the balance of payments of New Zealand (as against £0.2 million during the previous twelve months) according to an estimate by the Reserve Bank of New Zealand.

Commonwealth Bank by over £A 100 million in 1943 and 1944 and the repayment in 1943 of the balance of British Treasury advances obtained from 1940 onwards to cover Australia's war expenditure in the United Kingdom. An essential factor in Australia's economy has been the purchase by the British Government of the wool clip (estimated at about £A 70 million in 1943) part of which is not exported but stored in Australia.

The Union of South Africa is known to have considerably increased its exports of strategic materials, including diamonds. Part of the current South African gold production has been added to the domestic gold reserve, which rose from £SA 44 million at the end of 1941 to £SA 99 million at the end of 1944.

India's merchandise trade has fallen considerably in terms of quantities, but the prices of her imports as well as her exports have increased at a rapid rate (Table 12). The quantum of imports was almost halved in the fiscal year 1942-43; imports of cotton piece goods fell to a fraction of the pre-war figure, and the same was true of rice after the supplies from Burma were cut off; in the case of both these articles, which are normally among India's principal imports, a net export arose. In order to mitigate the food shortage in Bengal provision was made for the import of 800,000 tons of wheat during

Table 12

India: Foreign Merchandise Trade, and Defence Expenditure Borne by the British Government

(Fiscal years ending March 31)

	1938-39	1939-40	1940-41	1941-42	1942-43	1943-44
Import indices:						
quantum	100	102	81	74	38	.
price	100	106	127	153	193	.
Export indices:						
quantum	100	105	88	93	63	.
price	100	120	130	156	185	.
Value in rupees (000,000's):						
imports	1,490	1,580	1,447	1,669	1,033	1,079
exports	1,633	2,058	1,874	2,373	1,877	1,992
export balance	+143	+478	+427	+704	+844	+913
Defence expenditure incurred in India, borne by the British Government, in rupees (000,000's)	—	—	530	1,930	3,370	3,820

Note: The figures "do not include the value of stores exported abroad for defence purposes nor do they include the value of imports on this account." It is believed that the inclusion of such goods in the recorded trade would have raised the export balance (*cf. Review of the Trade of India in 1941-42*, page 97).

The exchange value of the rupee, after falling by 14% in the second half of 1939, has remained at approximately $0.30 or £0.075.

the twelve months beginning October 1943. Total exports fell off considerably, even in value terms, in 1942-43. The chief item in India's balance of payments in that year was the defence expenditure incurred by the British Government, which was almost twice what it had been in the previous year, and was equivalent to nearly double the aggregate value of exports and over four times the export balance. Early in 1944, practically the whole pre-war sterling debt of the Indian Government and railways, which in 1939 exceeded £350 million, had been repatriated. At the same time the sterling assets of the Reserve Bank of India alone had risen since August 1939 by over £700 million. During 1944 these assets rose on an average by £23 million monthly, reaching £940 million at the end of the year.

The Middle East and North Africa

In the Middle East a food shortage developed in 1942, a result of crop failure in the previous season, and the cutting of the supply routes through the Mediterranean. The danger of famine was averted through the activities of the Middle East Supply Centre, a joint Anglo-American organization which had been active since April 1941. During the first two years of its existence the Supply Centre arranged for the shipment to the Middle East (largely via the Cape of Good Hope) of 6 million tons of goods, consisting mainly of foodstuffs and fertilizers. At the same time the Governments in some of the Middle-Eastern countries took steps to increase local self-sufficiency by encouraging shifts away from export crops to crops suitable for domestic food consumption (for instance, from cotton to wheat in Egypt, and from citrus fruit to wheat in Palestine).

A similar supply problem arose in French North Africa after its liberation late in 1942. The area is normally food-exporting, but the 1942 cereal crop was poor, and shipments to France had been increased in order to "bridge the gap" in that country until her own crop became available. During the early months of the Allied occupation, therefore, the Allied Powers had to supply North Africa with foodstuffs. Total civilian supplies shipped by the United States to French North and West Africa up to the end of 1943 amounted to 405,000 tons.

Latin America

In Latin-American trade the tendencies to which reference was made in the previous *Survey* continued to be felt during 1943 and 1944. The expanding market for strategic materials, and the shift in the foreign demand for foodstuffs caused by the elimination of Continental Europe as a market and the shortage of shipping space, affected the composition of exports.

In Brazil coffee exports, which declined during the early part of

the war, have recently increased with the improvement in the shipping situation. The principal change in Brazilian exports during the war has, however, resulted from larger sales of other primary products (such as bauxite, manganese ore, mica, quartz crystals, vegetable oils and rubber), as well as manufactured articles. The latter are reported to have represented 15% of the value of total exports in 1943 as against only about 2% before the war.

In the Argentine, the proportion of the value of all exports represented by vegetable agricultural products (chiefly grain), which was between a half and two-thirds before the war, had fallen to not much more than 20% in 1942 and 1943. The proportion represented by animal products, on the other hand, rose (from 43% in 1938 to 61% in 1942 and 53% in 1943). A tendency toward diversification of exports is noticeable in certain Central-American Republics which have long been dependent on a limited number of export articles such as bananas and coffee.

While in the majority of Latin-American countries the quantum of exports has been maintained or increased, that of imports appears to have been below the pre-war level. Thus, the quantum of Argentine imports, as reflected in the movement of the *valores de tarifa*, has declined steadily during the war; in 1942 it was 55% of the 1938 level, and in 1943, in consequence of special measures taken by the United States,[1] it underwent a further sharp drop to 36%. The surplus of exports over imports has tended to rise—a fact which is illustrated by the following tables showing the trade balances of eight major Latin-American countries.

Table 13

Import (—) or Export (+) Balances of Certain Latin-American Countries in $ (000,000's)

(Merchandise only)

	1938	1941	1942	1943
Argentina	— 6	+97	+187	+392
Brazil	— 0	+62	+147	+137
Chile	+36	+50	+ 50	+ 48
Colombia	— 8	+ 3	+ 50	+ 41
Cuba	+36	+76	+ 36	+173
Mexico[a]	+57	—38	+ 48	+ 42
Peru[a]	+17	+22	+ 24	+ 2
Uruguay	— 1	+ 8	— 6	+ 36
Total (8 countries)	+131	+280	+536	+871
Total export balance as percentage of total exports of the same countries	9%	18%	31%	41%

[a] Including bullion and specie.

[1] *Cf.* page 248 above.

This rise in export balances and the corresponding rise in foreign exchange reserves coincided with accruals of foreign exchange from other sources. Some part of the imports (in particular imports of equipment required for developing the production of strategic materials) has been financed by United States credits. Since the middle of 1942 new credits have been granted by the Export-Import Bank to Brazil, Bolivia, Mexico and Uruguay, among other countries. Large amounts have also been spent by the United States in Latin America as a contribution to the work on the Inter-American Highway, for the construction of military bases in the West Indies, and for various other purposes.[1]

The supply of foreign currency from these sources, added to the amounts derived from the growing export surplus, has greatly improved the foreign payments position of Latin-American countries. The following results of this change may be pointed out:

1. Certain Latin-American countries, such as the Argentine, Uruguay and Venezuela, have relaxed their exchange restrictions on imports; the market exchange value of their currencies has tended to rise.[2]

2. In several Latin-American countries import tariffs on a wide range of goods (particularly essential materials and equipment) have been reduced or abolished.

3. Gold has flowed into Latin-American countries and dollar and blocked sterling assets have accrued to them at an increasing rate.[3]

4. There has been some liquidation of outstanding long-term obligations. Argentine debt repatriation, which amounted to 21 million pesos in 1941, rose in 1942 to 135 million (of which 85 million represented sterling debt), and in 1943 to 144 million (the whole amount consisting of sterling debt).[4] Certain other Latin-American republics have availed themselves of the opportunity of repurchasing from abroad, at low prices, domestic bonds that were in default.

5. Amounts paid to foreign investors on account of interest and dividends have tended to rise. Thus, the yield of British investments in Latin America, which had fallen from 4.5% in 1928 to 1.6% in 1939, rose gradually to 2.4% in 1943.[5]

[1] It may be added that commodities obtained as United States lend-lease aid for defence purposes ($128 million up to the end of 1943 according to U.S. statistics) have not had to be financed by the export of goods.

[2] *Cf.* Chapter IV, page 195.

[3] *Cf.* Chapter IV, pages 188 and 194.

[4] The Argentine debt repatriation was small, however, in relation to the surplus on current account in the balance of payments (303 million pesos in 1942 and 1,088 million in 1943) as well as to the holdings of gold and foreign exchange (3,766 million pesos at the end of 1943) and the total long-term foreign indebtedness (recorded at 9,057 million pesos in 1941).

[5] According to calculations by *The South American Journal*, referring to securities listed on the London Stock Exchange. The percentage was 1.7 in 1940, 1.9 in 1941, and 2.3 in 1942. It remained at 2.4% in 1944.

In this connection, mention may be made of the new agreement reached late in 1943 between Brazil and holders of Brazilian sterling loans, arranging for an annual debt service payment of about £8 million as against only half that amount in the preceding few years. At this higher figure the payment represents about a third of full statutory debt service.

China

The external trade of Free China has continued to suffer as a result of Japan's control over her normal routes of transport to the outside world. Chinese authorities have endeavoured to promote internal trade and the domestic utilization of products which were formerly exported. Of late, however, Government export controls on articles such as tea, bristles and wood oil, which were introduced during the early part of the Sino-Japanese War, have been relaxed, and these articles, as well as wool, silk and strategic minerals have been shipped in limited quantities by air to India and by land to, or through, the U.S.S.R. United States lend-lease shipments to China up to the middle of 1944, sent chiefly by air, had a value of U.S. $381 million. To a certain extent, the demand for industrial products for civilian use is being met by smuggling from occupied China.

Japanese Trade

Japan, it appears, has obtained from certain of the areas under her control a greater quantity of goods than she was able to import from all countries before the war. According to a statement by Madame Chiang Kai-shek on June 16th, 1943, there had during each of the preceding twelve months been shipped to Japan from occupied territories within the Great Wall of China 3.2 million tons, and from occupied territories in Manchuria 2.8 million tons of raw materials; in addition, Japan had during the same period transported each month from territories within the Great Wall 2.3 million tons of materials for the heavy industries she was building in Manchuria and other parts of Asia. The total weight of goods thus carried away by Japan (hence not including foodstuffs for consumption by the Japanese army in China) amounted, therefore, during these twelve months to 100 million tons. For purposes of comparison it may be mentioned that in 1937 and 1938, Japanese imports from all countries amounted to 30.3 and 23.6 million "cargo tons"[1] respectively. From British Malaya Japan had, during the twelve months preceding Madame Chiang Kai-shek's statement, shipped in all approximately 6 million tons of goods. These shipments to Japan were largely in the nature of a tribute, and to that extent were not offset by imports from Japan; the occupied areas, therefore, have been poorly supplied

[1] Partly of 2,240 lbs., partly of 40 cubic feet.

with manufactured articles, and commercial transactions proper within the area have apparently been reduced to a very low level. In the absence of equilibrating trade movements, and under the influence of inflationary forces which have been much stronger, for instance, in occupied China than in Japan, the old system of price relationships within the area has in large part broken down and various methods have been used by Japan to level out price discrepancies between domestic and imported goods. The shortage of transport facilities has dictated a policy of local self-sufficiency in the case of food, a policy which is contrary to the declared object of securing increased economic co-operation among the areas concerned. Owing to the greatly reduced production of rice in Burma and certain of the other major rice-exporting areas, a scarcity of rice developed in Japan in 1942, rendering it necessary to expand production for local consumption in the Philippines and British Malaya.

Japan has endeavoured, by changes in production in the areas she occupies, to obtain increasing quantities of raw materials normally purchased elsewhere; thus, the cultivation of cotton has been encouraged in the Netherlands Indies and the Philippines, the cultivation of jute in Indo-China. The one-sidedness of Japan's trade with the last-mentioned country—despite the existence of an agreement providing for mutual commercial exchange—is demonstrated by the fact that by the end of 1943 Indo-China had accumulated a balance of over 500 million yen (equivalent to 5,000 million francs),[1] which was blocked in Japan, since only small quantities of Japanese goods could be imported. Japanese exports of capital and capital goods to northern China have declined; but a credit of 200 million yen is reported to have been extended to Thailand in the middle of 1942.

In the course of 1944 and the early part of 1945 Japan's trade with occupied areas other than northern and central China appears to have been largely halted as a result of the difficulties experienced by Japanese shipping.

Trade of Continental Europe

It is estimated that in Continental Europe the quantum of foreign trade in recent years has amounted to about half its pre-war level. The reduction has not, however, been evenly distributed. Table 9 shows how the value of trade changed over the period 1938-43 in the few European countries which have published trade figures. In the last two columns figures have been added showing the movement of wholesale prices since the early part of 1939. Though they afford a rough indication of the extent to which prices have risen in European trade, these price indices cannot be taken as truly representative

[1] For purposes of comparison it may be mentioned that the total exports of Indo-China in 1939 amounted to 3,500 million francs.

of the movement of export prices in all of the respective countries.[1] This is true particularly for Germany, where export prices are known to have undergone a much greater increase than internal prices.

Table 14

Nine European Countries: Movement of Trade Values and Wholesale Prices

		I: Imports; E: Exports Trade values (national currency) 1938 = 100					Wholesale prices Jan.-June 1939 = 100	
		1939	1940	1941	1942	1943	1941	1943
Bulgaria	I	105	142	207	262	269[a]	145	219[b]
	E	109	126	166	241	312[a]		
Denmark	I	107	85	81	74	75	185	195
	E	103	99	83	69	85		
Finland	I	88	60	119	136	150	174	243
	E	92	34	51	71	104		
France	I	.	.	.	56	32	190[c]	261[c]
	E	.	.	.	97	118		
Germany[d]	I	79	83	114	144	137	105	109
	E	93	87	121	135	153		
Hungary	I	119	147	178	225	279	144	225[e]
	E	116	99	151	219	247		
Portugal	I	90	106	107	108	143	153	220
	E	117	142	261	346	348		
Spain	I	94	133	118	131	196	147	181
	E	120	131	174	210	293		
Sweden	I	120	96	80	85	87	158	179
	E	102	73	73	72	63		
Switzerland	I	118	115	126	128	107	173	206
	E	99	99	111	119	124		

[a] First two quarters as percentage of quarterly average 1938.
[b] Average January-August.
[c] Figures for December; basis August 1939.
[d] Including Austria. For reasons indicated in the text, the figures must be accepted with reserve.
[e] Average January-October.

The trading position of four of the countries considered in the table—Bulgaria, Hungary, Portugal and Spain—was exceptionally favourable. In the majority of the minor trading countries not shown in the Table, trade has probably declined. Moreover, in countries occupied by Germany, trade (particularly exports) has ceased to reflect commercial prosperity. During 1940 and 1941 heavy stocks of raw materials and other goods were transferred from them to the Reich. The exhaustion of this source of supply did not reduce the drain upon the resources of the countries in question—on the contrary, as the economy of these countries was transformed to feed the German war machine, they had to supply an increasing flow of goods out of

[1] Import and export price indices are available only for certain of the countries in question. Table 16 gives such indices for Bulgaria and Switzerland.

their current production. The acceleration of this movement is reflected in the figures of German clearing debts. According to a German calculation, these debts rose during the first year of war by 500 million marks, during the second by 2,000 million and during the third (ending August 1942) by 4,700 million. According to another set of data the total debt outstanding was 5,000 million marks by the middle of 1941 and 9,000 million in the middle of 1942. The debt continued to rise in geometric progression for at least another year and was estimated at 21,000 million marks in September 1943.[1] From then to the end of August 1944 the debt to six countries alone rose from approximately 17,600 to 26,500 million marks.

According to the Thirteenth Annual Report of the Bank for International Settlements, the clearing claims (almost exclusively on Germany) of eight countries—France, Belgium, Holland, Denmark, Hungary, Roumania, Bulgaria and "Bohemia and Moravia"—amounted at the end of 1940 to 1,665 million marks, at the end of 1941 to 5,845 million, at the end of 1942 to 11,510 million and in September 1943 to 18,045 million. Germany's total clearing debt proper, calculated from the volume of foreign balances held at the *Verrechnungskasse* and invested by it in Reich securities, amounted at the end of 1942 to 14,500 million marks, of which nearly half had accumulated during that year.

In view of this increase in the German clearing debt, it is interesting to note that the combined exports of Germany (and Austria) are reported to have increased more than imports between 1938 and 1943 (54% as against 37%). The trade figures on which these percentages are based are shown below:

	Reichsmarks (000,000,000's)					
Merchandise trade of Germany and Austria:	1938	1939	1940	1941	1942	1943
Imports	6.05	4.8	5.0	6.9	8.7	8.26
Exports	5.62	5.2	4.9	6.8	7.6	8.59
Import (—) or export (+) balance	—0.44	+0.4	—0.1	—0.1	—1.1	+0.33

Note. The territory to which the above figures refer expanded during the period considered as the result of German annexations. Deliveries of goods and war material made by Germany in the form of assistance to her allies are said not to be included in the export figures.

The figures appear to support German statements to the effect that the increase in the clearing debt resulted not from a passive balance of merchandise trade but from other items, particularly the remittances to their home countries made by foreign workers in Germany out of their wages. Actually, it is difficult to account for the clearing

[1] *Occupied Europe, German Exploitation and its Post-War Consequences* (Royal Institute of International Affairs; London 1944).

debt in this manner. According to press reports, the remittances[1] in question, from the beginning of 1940 up to the end of 1943, totalled 1,300 million marks,[2] or only a fraction of the debt.[3] Reference has also been made to the fact that Germany has delivered capital goods on long-term credit (that is, outside the clearing) to certain European countries, but the indications are that such deliveries have not been very important. It will be observed, however, that no details are available concerning the nature of the goods included in the trade figures quoted above. Government transactions represented a very large proportion of German wartime imports and exports, and the reported balance of trade largely depends, of course, on the extent to which such transactions were included or excluded. German goods (for example foodstuffs) intended for consumption by German forces in the occupied countries were hardly an item of trade, but the indications are that at least in certain cases such deliveries were recorded as exports;[4] on the other hand, German purchases abroad of goods for use by German troops were not included in imports as long as the goods did not cross the German frontier. It should also be kept in mind that a large part of the German exports to the occupied countries consisted of goods intended, not to meet the requirements of these countries, but to increase their capacity for serving the Reich.

Levies under the heading "occupation costs" were likewise available in part for financing German imports. According to official British statements, details of which are entered in Table 10, the charge on the chief occupied countries on account of this item up to the end of August 1944 totalled 61,500 million marks. By that time, the liberation of large areas of France, Belgium and Holland had greatly reduced the amount of tribute which Germany could collect. A year earlier, however, the annual drain upon the resources of the occupied countries in the form of occupation costs and clearing claims amounted to 22,500 million marks, or over $9,000 million at the official exchange rate for the mark. This amount corresponds to between three and four times the annual "disinvestment" of oversea assets by the United Kingdom (whose population in 1939 was 47.8 million as compared with a population of 99 million in the occupied countries), and it was only 23% less than United States lend-lease

[1] Excluding remittances to Holland and the "Protectorate," as well as to the "General Government" during the last few months of 1943 which were effected by means of postal cheques.

[2] According to another German estimate, 2 billion marks.

[3] Obviously, to the extent that the sums remitted were added to Germany's clearing debt, they were not really transferred and the payments to the addressees had to be financed by the "receiving" countries.

[4] Norway is known to have a debt on clearing account to Germany due to imports into Norway from Germany for the German army of occupation (*World Economic Survey, 1941/42*, page 24).

Table 15

Levies on Certain Occupied European Countries and Clearing Debts to the Same Countries

Reichsmarks (000,000,000's)

	Occupation costs and other charges		Clearing claims on Germany	
	Total up to August 31st, 1944	Annual rate	Total as of August 31st, 1944	Annual rate of increase August 1944
France	35.3	0.7[a]	7.7	0.3[a]
Belgium	5.7		4.8	
Netherlands	8.6	0.9[a]	7.9	1.1[a]
Norway	7.4	1.7	[b]	[b]
Denmark	1.8	1.1	1.3	0.5
"Protectorate" (Bohemia, Moravia)	1.8	0.3	4.2	1.9
Slovakia	[c]	[c]	0.6	0.4
Serbia	0.9	0.2	[b]	[b]
Total for above countries	61.5	4.9	26.5	4.2
Ditto, in billion $[d]	24.8	2.0	10.7	1.7

[a] The figures have been adjusted downwards in order to make an approximate allowance for the effect of the liberation of large areas of France, Belgium, and the Netherlands. Eleven months earlier (*i.e.*, on September 30th, 1943) the annual increase for these countries was estimated at (figures in billion reichsmarks):

	Occupation costs, etc.	Clearing claims
France	9.5	2.2
Belgium	1.7	1.3
Netherlands	1.2	1.9

[b] The balance in the clearing was in favour of Germany. It includes the equivalent of imports into Norway on account of the "Wehrmacht."

[c] Not available.

[d] Converted at the rate of 1 RM = $0.4033.

Note. Source: *Parliamentary Debates* (House of Commons) October 26th, 1943 (Vol. 393, No. 112), and October 10th, 1944 (Vol. 403, No. 129). The source shows the amounts in reichsmarks and in sterling, converted at the rate of 1 RM = 1s. 6d., which is 25% less than the official exchange value of the reichsmark. In the above table, conversion to dollars has been made at the official rate. "Occupation costs and other charges" include levies imposed by Italy. "No allowance has been made in these figures for losses suffered by the U.S.S.R., nor for loot, nor for any destruction to property or injury to persons." Data for Greece are excluded. Levies up to the end of June 1943 are reported at 580 billion drachmae (no reliable conversion rate is known), with German demands varying from month to month and tending to rise steeply; no recent information on the Greek clearing balance was available.

The following information for certain areas not included in the above table refers to September 30th, 1943:

Reichsmarks (000,000,000's)

	Occupation costs etc.,		Clearing Claims	
	Sept. 30th, 1943	Annual rate	Sept. 30th, 1943	Annual rate
"General Government" (Poland)	2.1	0.5	0.3	0.1
"Croatia"	0.3	0.15	.	.

It is pointed out, however, that in the case of Poland (as in the case of previously occupied areas of the U.S.S.R.), "exploitation largely took the form of loot the value of which cannot be assessed."

Occupation costs have been levied in Hungary since March 1944. The annual rate of such costs is believed not to have been less than a thousand million reichsmarks; in addition there was a German clearing debt to Hungary of about one thousand million reichsmarks.

aid in 1943. Indeed, the total drain in respect of occupation costs up to the end of September 1943, calculated in similar fashion, exceeded total United States lend-lease aid up to the same date by about 50%. If we take the value of total merchandise imports from all countries into Germany and Austria in 1938 as our standard of comparison, we find that the annual increase of clearing claims alone slightly exceeded this figure, and that the value (in marks) of annual occupation costs was over two and a half times as great.

At the time when German exploitation of western Europe was at its peak, however, German trade was already beginning to be affected by the change in the fortunes of war. Late in 1942 the area with which Germany could trade began to contract in the south and east.

The loss of trade with French North Africa meant the drying up of an important source of foodstuffs and fertilizers for the Reich. In peace-time the surplus of foodstuffs of this area had been absorbed largely by France, but from the time of the Armistice in 1940 until November 1942 the great bulk had been diverted to Germany. The average annual export of wheat from French North Africa in the period 1930-38 (392,000 tons) corresponded to 70% of Germany's annual net import of wheat during the same period; and the area was a principal source of supply for wine, olive oil, grapes, citrus fruit and dates. It also furnished practically all the raw phosphate used by Europe. The Allied occupation of Sicily, Sardinia, and southern and central Italy further deprived Germany of supplies of foodstuffs (particularly citrus fruit) and minerals such as pyrites, molybdenum, sulphur, zinc, antimony and asphalt.[1]

In the East, vast areas with a surplus production of foodstuffs and raw materials were lost to Germany with the Russian advance in 1943 and 1944. According to German data issued in April 1944, the eastern regions then evacuated by Germany had during the period of occupation supplied the following quantities of goods for use by the troops of Germany and her allies and for consumption within Germany and other European countries:

	Tons
Cereals	7,000,000
Meat	675,000
Fats	140,000
Potatoes	2,700,000
Fodder	2,000,000
Petroleum	750,000

In the early part of 1944 several non-belligerent countries were persuaded to reduce their deliveries of strategic products to Germany. Thus, Portugal discontinued her deliveries to Germany of wolfram

[1] On the other hand, the occupation of southern and central Italy by the Allied Powers probably reduced German deliveries of civilian supplies. Before that occupation, Germany is stated to have sent over 300,000 tons of wheat annually to Italy.

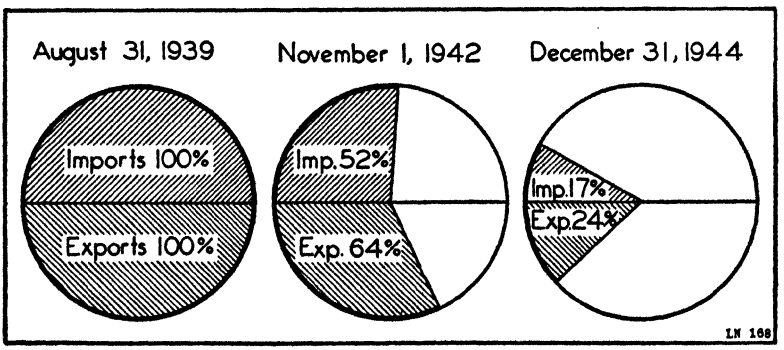
ore, and Turkey hers of chrome ore; Spain reduced her exports of wolfram ore to a fraction of earlier sales, and Sweden agreed to cut her exports of ball bearings to Germany. Later in the year, Switzerland consented to discontinue her exports of war materials.

From the middle of 1944 the shrinkage of the German trading area was accelerated. The liberation of France and Belgium severed the Reich from trade not only with these countries but also with Spain and Portugal. Turkey and Finland broke off relations with Germany, while Roumania and Bulgaria switched from the position of satellites to that of enemies of the Reich; and as the railway connections over Yugoslavia with Greece were cut, German trade with the last-mentioned country came to a standstill. Later, as the fighting fronts moved closer to Germany, her trade with the greater part of Yugoslavia and Hungary was also cut off. The loss of trade with southeastern Europe deprived Germany of her chief external supplies of mineral oil, cereals, oil seeds, tobacco and many other products. German trade with Sweden was practically discontinued in the autumn of 1944 as a result of measures taken by that country, and German trade with Norway was hampered by the suspension of all freight traffic through Sweden from and to Norway.

Diagram 2

Shrinkage of the German Trading Area

The share in the combined trade of Germany and Austria in 1938 of the areas open to the trade of these two countries on the dates indicated below:



The importance of these changes may be judged from the following figures for 1938. In that year the areas which were open to the trade of Germany and Austria at the beginning of November 1942 accounted for approximately 52% of the imports and 64% of the exports of these two countries, while the areas open to their trade in December 1944 accounted for only about 17% of the imports and 24% of the exports (Diagram 2). The figures suggest a decline in

the trade of Germany and Austria by about two-thirds over a period of less than two years.

In the twelve months ending March 31st, 1944, Germany was able to import on balance 11.4 million tons of foodstuffs,[1] or about 50% more than in 1938. These imports, as well as those of industrial raw materials, must have shrunk to small proportions in the course of the last half of 1944. The supply of industrial products was also curtailed, especially after the liberation of France and Belgium. Given the manner in which Germany had integrated the economies of the occupied countries into her own,[2] her domestic industrial production must also have suffered. The loss of France and Belgium was the more serious for Germany because the bulk of the supplies she obtained from these countries did not have to be paid for by German exports. Two-thirds of the total annual levies in the form of occupation costs, clearing claims, etc., specified in Table 15 had been met by these two countries.

During the two years preceding the liberation of France and Belgium, Germany lost ground in North Africa, Italy and the U.S.S.R., but was still able to keep, and in some instances tighten, her economic grip on the greater part of Continental Europe proper. There were indications, however, that the attempt to mobilize Europe's economic power under German control was not wholly successful. In particular, as prices in several European countries tended to rise, a considerable deterioration occurred in Germany's terms of trade. This was felt mainly in transactions with southern and southeastern Europe, but to some extent also in transactions with other European countries. Figures for German import and export prices are not available, but, given the extent to which Germany dominated the trade of Continental Europe, the general trend of price movements is likely to be correctly reflected in the improvement since 1941 in the terms of trade of countries such as Bulgaria and Switzerland (Table 16).

This change resulted largely from the drain of goods in the direction of the Reich, and from the inflationary effect in the exporting countries of advance payments to exporters on account of the unsettled clearing claims on Germany. Various measures were taken to diminish this inflationary effect. Thus, in Denmark public loans were issued to absorb the purchasing power resulting from payments to exporters, and a similar procedure was adopted in the Netherlands and in "Bohemia-Moravia." In Belgium, part of the payments in question were effected in interest-bearing treasury certificates. In Hungary and Roumania, large amounts of the claims were absorbed by anticipatory orders for German goods to be delivered after the

[1] *First Report to Congress on United States Participation in Operation of UNRRA.* Imports are given at 12.9 million tons, exports at 1.5 million.

[2] *Cf. World Economic Survey 1941/42,* pages 80-81.

Table 16

Figures Illustrating Changes in the Terms of Trade of Bulgaria and Switzerland

Bulgaria	August 1939	August 1940	August 1941	June 1942	March 1943
(a) Import price index	100	135	179	216	178
(b) Export price index	100	120	138	174	190
(c) *b* as % of *a*	100	96	77	81	107
Switzerland	1938	1941[a]	1942	1943	1943 4th qr.
(a) Import price index	100	180	216	227	238
(b) Export price index	100	130	161	196	205
(c) *b* as % of *a*	100	72	74	87	86

[a] Approximate figures.

war under special guarantee by the Reich. These two countries were also allowed, along with Bulgaria and Slovakia, to use part of their clearing claims on Germany for the repurchase of domestic securities in German hands—a move which contrasts with the policy of financial penetration which the Reich pursued during the early part of the war. Furthermore, Germany endeavoured to persuade her trading partners to stabilize their export prices; thus towards the end of 1942 she concluded reciprocal agreements to that effect with Bulgaria, Denmark, Italy, Slovakia and Turkey. The results of this policy do not appear to have been satisfactory, since the stabilization of prices tended to discourage exports to Germany. The German clearing debt continued to rise in 1943, and it was stated[1] that the bulk of the increase resulted from the rise in prices in certain countries. A proposal to correct the trend of price relationships by introducing a policy of "flexible exchange rates" (with a higher than the prevailing exchange value for the mark) had to be discarded; instead, a system of "elastic export prices," varying according to the country of sale, was adopted by Germany.

In the second half of 1942 import, and in some cases export duties, between Germany and German-controlled areas were for the most part abolished. Thus, Germany abolished import duties[2] on most goods imported from Belgium, Estonia, Denmark, France, Greece, Latvia, Lithuania, Hungary, Italy, Norway, Poland ("General Government"), the Ukraine and Yugoslavia (except areas occupied by Bulgaria).[3] In certain cases, controls of trade through import and

[1] By the President of the Reichsbank at the bank's annual meeting.
[2] As from December 1st, 1942, in most cases.
[3] "Bohemia-Moravia" had been incorporated in the German customs area on April 1st, 1940. Trade between Germany and the Netherlands had been free of customs duties since the beginning of 1941, but license control continued until the autumn of 1942.

export permits were also abolished. In the circumstances, the measures thus taken seem to have been of importance chiefly as tending to divert to Germany the trade which the German-controlled areas might otherwise have conducted with other countries. The so-called multilateral clearing system which Germany had instituted, continued during 1942 and 1943 to be of very limited practical value for trade among European countries.[1]

Recent trends in European trade may be further illustrated by data for individual countries, beginning with those under German occupation.

From information in the press concerning the movement of quantities and prices of the goods entering into French trade, it is possible to calculate approximate trade values for 1943 and the first five months of 1944 as follows:

	French francs (000,000,000)			
Imports	Foodstuffs	Industrial raw materials	Finished Products	Total
1938	12.5	26.8	6.7	46.1
1943	2.6	6.3	5.8	14.7
1944 (Jan.-May)	0.9	2.0	2.2	5.1
Exports				
1938	4.4	9.8	16.4	30.6
1943	10.6	8.7	16.9	36.2
1944 (Jan.-May)	5.1	3.1	10.3	18.5

Import prices are estimated to have risen on the average between three and four times, and export prices about three times. The quantum of imports in 1943 was only 10%, and in the first five months of 1944, 7% of what it had been in 1938. The quantum of exports, on the other hand, was almost half what it had been, and, in the case of foodstuffs, it was even considerably above the 1938 level. For 1941 and 1942 some information is available concerning the geographical distribution of French trade:

	Francs (000,000,000's)					
	Imports			Exports		
	1938	1941	1942	1938	1941	1942
Germany, Austria and Belgium	6.4	.	8.9	6.1	.	20.9
French oversea Territories	12.5	14.3	12.4	8.4	5.3	6.5
Other countries	27.2	5.7	4.5	16.1	2.2	2.2
Total	46.1	.	25.8	30.6	.	29.6

The large increase in exports to Germany, Austria and Belgium reflects the draining away of French goods by Germany: it does so,

[1] "In actual practice, multilateral clearing so far has had little more to show than permits, given in isolated cases, to employ certain limited amounts for payments in third countries." (Bank for International Settlements, *Annual Report*, 1942-43, p. 30.)

however, only incompletely, since in addition to exports proper there have been large deliveries of goods to German forces in France.[1]

French imports fell off heavily in 1943 owing to the discontinuation of trade with French North Africa, which in 1942 had supplied 48% of the imports of metropolitan France. In the summer of that year, 150,000 tons of cereals were obtained from North Africa to bridge the gap between French consumption and domestic supplies until the new crop became available.

At least up to and including 1942, the terms of trade changed markedly in France's disfavour, and a foreign trade compensation fund was established in 1942 with the object of lowering the high prices of certain imported products through subsidies financed out of levies on excess profits made by French exporters. The French clearing claims on Germany rose by 11,500 million francs (575 million marks) in 1941, by 30,000 million in 1942 and by 60,000 million in 1943. The amount outstanding at the end of 1943 was close to 120,000 million francs; in August 1944 it exceeded 150,000 million francs. During the first ten months of 1943 clearing entries to the credit of France were piling up 4 1/2 times as fast as entries to the credit of Germany. In that year the bulk of the industrial output is reported to have been exported to Germany, or delivered to German armed forces in France. Moreover, in spite of the fact that France had been cut off from North African supplies, she was obliged to furnish the following quantities of agricultural products to Germany in 1943:

Wheat	800,000 tons
Oats	500,000 tons
Meat	230,000 tons
Potatoes	400,000 tons
Cheese	100,000 tons
Straw	400,000 tons
Hay	450,000 tons
Fats	25,000 tons
Wine	3,500,000 hectolitres

The following figures for Belgian trade show the effect of deliveries to Germany on Belgium's balance of trade up to 1942:

	1938	1941	1942
		per cent	
Proportion of exports taken by Germany	12	72	78
Ratio of total exports to total imports	91	157	261

[1] The *Revue de l'Economie Contemporaine* for April 1943, from which the above figures for 1941 and 1942 are derived, suggests that the foreign trade turnover of France (including deliveries not entering into recorded exports) was approximately the same in 1942 as in 1938, *i.e.* 76,700 million francs. Total exports (in a wide sense) would accordingly have exceeded 50,000 million francs.

The total foreign trade of Belgium is reported to have fallen to half its pre-war value in 1942. In that year and the first nine months of 1943 Belgian clearing claims on Germany were accumulating at a rate of about 16,000 million francs (1,300 million marks) a year; in addition there was a considerable rise in Belgian credit balances with controlled "central clearing," mainly on account of an excess of Belgian exports to France and Holland, which countries were unable to maintain their exports of foodstuffs to Belgium. In the first nine months of 1944 the aggregate Belgian clearing claims rose from 24,000 to 44,000 million francs.

Trade between the Netherlands and Germany was made "completely free" in 1942. This does not mean, however, that trade was thereafter governed by the market-price differences between the two countries; in fact, it was found necessary to regulate trade by measures affecting export prices in both the countries, and the price-control order introduced in the Netherlands in December 1943 provided for the "equalisation" of export prices to bring them into correspondence with the German price level. After the "freeing" of trade, clearing advances to Germany continued to increase at a rate of 1,900 million marks a year. At the same time trade between the Netherlands and several other countries declined.

An agreement of September 5th, 1944, provides for a customs union of Belgium and Luxemburg with the Netherlands, to enter into force as soon as the governments of these countries have been reinstated. The union is temporary, but is intended to prepare the way for the eventual realization of a permanent customs union.

Danish exports during the early part of the period under review suffered from the after-effects of a bad crop in 1941. Meat exports fell off by one-half in 1942. As crops improved and the livestock population could be increased, exports of animal foodstuffs again expanded in 1943, and the import balance of 156 million Kroner in 1942 was turned into an export balance of 72 million in 1943. There was a still more rapid expansion in deliveries to Germany, as is shown by the fact that Danish clearing advances to that country rose by about 870 million Kroner in 1943 as against 263 million in 1942. Trade with other countries became increasingly difficult.

The plight of the Baltic countries seems to have been similar to that of other areas controlled by Germany. It is reported that, as the result of external pressure, Estonia's exports during the period of German occupation up to the middle of 1942 were 26 times as large as her imports.

Greek trade was reduced to a fraction of its previous level. While Greece was still under Axis domination the exchange of goods with Germany was facilitated by the establishment of the "German-Greek Commodity Equalization Company" which subsidized exports out of

levies on imports. German deliveries of civilian supplies in 1943 amounted to 34,200 tons valued at 87.4 million marks. From the early part of 1942 wheat and other foodstuffs, largely representing a gift of the Canadian and United States Governments, were sent to Greece on Swedish ships and distributed under international control. The rate at which such supplies were being delivered was later raised to over 30,000 tons monthly. By June 1944 over 300,000 tons of wheat and 45,000 tons of other foodstuffs had been supplied in this way.

Trade between Italy and Germany up to the middle of 1943 was maintained at a high level reflecting the degree of economic interdependence of the two countries. Germany's difficulties in fulfilling her engagements had become very marked, however, in the course of 1942 and the early part of 1943; thus, in March 1943 arrears in deliveries of coal and iron ore were reported to have reached 42% of the quota that had been agreed upon for the previous six months. In consequence Italian advances to Germany on clearing account had risen to 7,000 million lire (about 920 million marks). In an attempt to remedy the situation, Italian exports of agricultural products to Germany had been reduced by half early in the year. In liberated Italy foreign supplies intended for urgent civilian needs have been furnished by the armed forces of the United States and the United Kingdom. By the middle of July 1944 the value of goods thus provided exceeded $100 million.[1]

Up to the early part of 1944, Germany's former satellites in south-eastern Europe maintained their trade on a relatively high level and, in contrast with German-occupied countries, were able to develop their exchange of goods with certain of the neutral countries of Europe. Germany remained, however, their principal trading partner, and their economic situation was greatly affected by inflationary tendencies released in part by the financing of advances to Germany on clearing account. The succession of short crops, which had led to a suspension of cereal exports in 1941 and 1942, was followed by a bumper crop in 1943. As cereal exports were resumed on a large scale, clearing claims on Germany increased rapidly and government control of trading transactions was tightened.

Bulgaria agreed in 1943 to pay higher prices for German-manufactured goods in compensation for a 60% rise in the export price of tobacco. Even before 1943 the National Bank of Bulgaria cancelled a portion of her clearing claims on Germany through the repurchase of Bulgarian Treasury Certificates which had been handed

[1] *Report to Congress on Operations of the Foreign Economic Administration, September 25th, 1944*, page 42.

over to German firms in payment for goods sold to Bulgaria on long-term credit.[1]

During 1941 and 1942 Hungary continued to put her surplus of cereals from the incorporated southern territories at the disposal of Germany and Italy (in the proportions of 60% and 40% respectively). The accumulation of clearing claims on Germany resulting in part from these exports was a dominating factor in trade. Attempts were made to check the movement through the repurchase of domestic bonds in German hands for the amount of 238 million pengö (142 million marks) in 1942 and 1943, and through the placing of prepaid Hungarian orders for German goods to be delivered after the war, in accordance with an agreement made with Germany in the middle of 1943. These steps proved inadequate; but in March 1944, through her virtual occupation of Hungary, Germany gained economic control of the country and charged Hungary with the maintenance costs for the occupying army.

Roumania advanced large amounts to Germany on clearing account (17,600 million lei in 1941 and 15,400 in 1942, corresponding to 225 and 204 million marks respectively); at the same time, however, certain German deliveries of capital goods were made on a long-term credit basis outside the clearing. After a temporary slackening during the greater part of 1943, due possibly to the repatriation of Roumanian Government securities in German hands, clearing claims began to rise again towards the end of the year when cereal exports were resumed and part of the goods which used to find a market in Italy were directed to Germany. Early in 1944 an agreement was concluded with Germany providing for the reduction of clearing balances by increased German deliveries of armaments.

The trading position of Finland up to the autumn of 1944 was different from that of the three countries just mentioned. Finnish exports had declined even in value, and, whereas before the war Finland had for several years had an active trade balance, during 1942 and 1943 her imports exceeded her exports by two-thirds. Foodstuffs had to be supplied largely by Germany and a clearing debt to that country accumulated, rising from 5,500 to 8,500 million markka (that is, approximately 150 million Reichsmarks) in the course of 1943. Service of the bulk of the considerable Finnish debt to Sweden was suspended late in 1943.

Switzerland experienced growing difficulties in obtaining essential materials from abroad. Exports of watches, particularly to the United States, were comparatively large in 1943, but imports from oversea countries remained at a very low level, while those from southeastern Europe were checked by the high export prices of the countries in that

[1] The amount of such certificates in the hands of the National Bank amounted to 4,700 million leva at the end of 1941 and 8,600 million at the end of 1942.

area. Trade with Germany was affected by the breakdown of trade negotiations early in 1943; the provisional agreement finally reached provided for the progressive elimination of clearing debts. The decline in imports was very marked in the course of 1943. During the last quarter of that year the quantum of imports fell to 39% of the pre-war (1938) level, while that of exports stood at 69%, and an export surplus thus arose. For the year as a whole the import balance was only one-fifth of what it had been in 1942. The figures for both quantum and value in 1944, as shown in Table 17, indicate a further sharp drop in Swiss trade. The Allied landings in France interrupted Swiss transit traffic through France, and it was not until 1945 that this traffic was resumed. Switzerland's trade with Germany was also curtailed in 1944.

Table 17

Switzerland: Foreign Trade Movements

	Price Index (1938 = 100)		Quantum index (1938 = 100)		Value in Swiss francs (000,000's)		
	Imports	Exports	Imports	Exports	Imports	Exports	Import Balance
1938	100	100	100	100	1,607	1,317	290
1941	180	130	70	85	2,024	1,463	561
1942	216	161	59	74	2,049	1,572	477
1943	228	196	47	63	1,727	1,629	98
1944	234	214	32	40	1,186	1,133	53

Spain and Portugal were able until the middle of 1944 to exchange goods with countries on both sides of the blockade line around German-dominated Europe. Their trade was highly profitable, largely because of the rise in the prices of the strategic products which they were in a position to supply. Their exports rose much more rapidly than their imports (*cf.* Table 9 above) and the growth of their foreign currency holdings confronted them with unprecedented problems with respect to monetary policy. Imports from the Argentine have compensated Spain for the low level of her domestic agricultural production since the time of the Civil War. The favourable payments situation has enabled her to redeem the bulk of her external liabilities and at the same time to increase her holdings of gold and foreign exchange. An arrangement made late in 1943 provided for the redemption of the debt to Germany of 400 million pesetas (about 95 million marks) which she had incurred during the Civil War. In Portugal the recorded surplus of imports over exports which in 1938 represented over half the import value[1] has since 1941 been replaced by a surplus of exports; in 1943 this surplus was reduced on account

[1] Owing to the undervaluation of exports in Portuguese trade returns, this import surplus should not be taken as representing the real trade balance.

of larger imports of coal and wheat consequent on a decline in the domestic production of these commodities. In 1944 the trade of both Spain and Portugal was affected by the elimination of their exchange of goods with Germany.

Unlike the other neutral European countries, Sweden experienced during the war a heavy fall in the total value of her exports. Export credits to Germany were withdrawn: the amount outstanding fell from 120 million kronor early in 1943 to 81 million at the end of the year and to 5 million in August 1944, the latter being due for repayment before the end of the year. The trade agreement with Germany for 1944 provided for a reduction in exports to that country of iron ore from 10 to 7 million tons, and of ball-bearings by a half.[1] German deliveries to Sweden of coal and coke were to be reduced from 4.7 to 4 million tons. During the third quarter of 1944 drastic restrictions on shipping[2] led to the almost complete cessation of Sweden's trade with Germany, and in general with European countries south of the Baltic. Up to that time Sweden's exchange with non-belligerent European countries had tended to increase at the expense of that with German-occupied countries. A minor portion of Sweden's trade has been conducted with countries outside Continental Europe, chiefly through the so-called safe-conduct traffic.

Table 18

Sweden: Geographical Distribution of Trade

	Imports			Exports		
Percentage share of:	1941	1942	1943	1941	1942	1943
Germany	52	44	51	41	40	43
Switzerland, Spain, Portugal	5	6	9	5	10	14
Rest of Continental Europe	26	27	25	42	39	35
Other countries	17	23	15	12	11	8
Total	100	100	100	100	100	100

In October 1944 Sweden granted a credit of 150 million kronor to Finland for rehabilitation, and undertook to deliver considerable quantities of foodstuffs and other necessities. Arrangements were also made for large similar deliveries on credit to Norway, Denmark and the Netherlands, to be made after the liberation of these countries.

[1] The export of ball-bearings to Germany was further reduced in June, and entirely discontinued in October 1944.

[2] *Cf.* Chapter VII, page 287.

CHAPTER VII

THE TRANSPORT SITUATION

When the last *Survey* was written in the autumn of 1942, the shipping situation of the United Nations had begun to improve after the severe strain to which it had been subjected by the heavy losses of merchant ships since the middle of 1940. Conditions were, however, far from satisfactory. The losses, though declining, were still high and had not by any means been made good by replacements. During the period which has elapsed since the autumn of 1942, the shipping situation has taken on an entirely different aspect, owing both to a decline in losses and to increased production.

The decisive period in the fight against the submarine menace extended from the middle of 1942 to the middle of 1943 in the course of which shipping losses fell to a level at which they no longer constituted a major threat to United Nations shipping. The heavy losses suffered during the early part of 1942 along the United States Atlantic Coast were almost completely eliminated after the middle of that year.[1]

Table 1

Losses of Allied and Neutral Merchant Ships from All Causes (Enemy Action and Marine Risk) up to the End of 1943

	Sept.-Dec. 1939	1940	1941	1942	1943	Total
Number of ships lost:						
British	158	728	892	782	361	2,921
United States	4	32	61	422	234	753
Others: allied[a]	17	201	466[b]	565	154	1,184
neutral[a]	144	384		90	63	900
Total	323	1,345	1,419	1,859	812	5,758
Capacity of ships lost, in gross tons (000's):						
British	498	2,725	3,047	3,695	1,678	11,643
United States	3	56	150	2,053	1,049	3,311
Others: allied[a]	90	822	1,496[b]	2,341	837	5,180
neutral[a]	344	946		249	82	2,027
Total	935	4,549	4,693	8,338	3,646	22,161

[a] Losses are recorded as "allied" or "neutral" according to the status of the country under whose flag the vessel was registered at the time it was lost. In the earlier years of the war, therefore, losses of neutral ships include vessels sailing under the flags of countries which have subsequently become allied or enemy countries.

[b] Allied ships lost in 1941, including those of the United States from the time she entered the war, numbered 344, measuring 1,299,000 gross tons; neutral ships, including those of the United States before she entered into the war, numbered 183, measuring 347,000 gross tons.

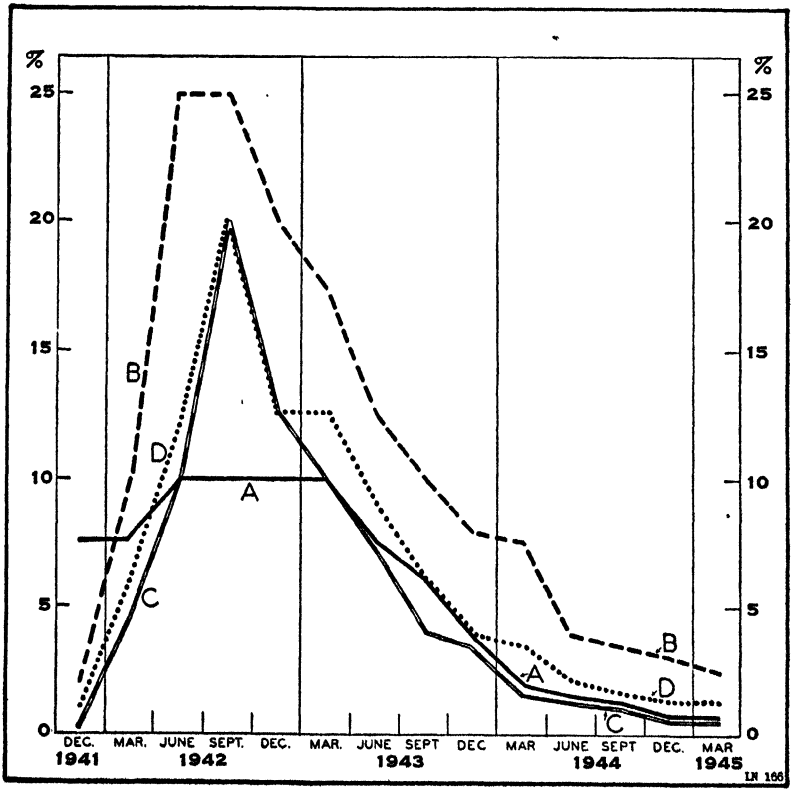
[1] Losses resulting from enemy action on the sea-lanes stretching from Nova Scotia to Florida, it has been disclosed, amounted to only 3 ships during the 15 months ending September 1943; from July 1942 to May 1943 not a single ship was lost.

Protection of the sea-lanes across the North Atlantic met with certain difficulties which were not solved until the latter part of March 1943, when convoy losses in this traffic dropped dramatically by two-thirds. The proportion of ships lost in the North Atlantic and United Kingdom coastal convoys was one out of every 181 ships which sailed in 1941, one out of 233 in 1942, one out of 344 in 1943; in the last half of 1943 the proportion of losses had fallen to less than one in 1,000 ships.[1] The losses suffered by the American and British convoys on the

Diagram 1

United States: War Risk Insurance Rates on Cargo on Selected Routes from Atlantic Ports

A: to United Kingdom (west coast)
B: to India (Calcutta)
C: to South America (south of Paramaribo)
D: to Australia (via Panama)



[1] Statement of the First Lord of the Admiralty, March 7th, 1944.

highly exposed route to Murmansk also declined sharply. Thus, the sinkings of United States ships carrying Lend-Lease goods to the U.S.S.R. on this route fell from the high figure of 12% in 1942 to one per cent in 1943. The total tonnage of ships lost by allied and neutral powers in 1943 was only 44% of what it had been in 1942, and was well below the figures for 1940 and 1941.

The continued downward tendency is illustrated by the data for sinkings by enemy submarines which are not, however, responsible for all the tonnage lost. Of the total sinkings by submarines in 1943, 47% occurred during the first quarter, 27% during the second quarter and 26% during the remaining two quarters. During the first seven months of 1944 allied losses through submarines were "almost negligible in comparison with former years."[1]

The increased security for shipping is reflected in the decline of war risk insurance rates on cargo (Table 2; Diagram 1). Between August 15th, 1942, when the rates reached their peak, and December 15th, 1944, the rates for shipments from United States ports to Europe, India, the Near East, Australia and Oceania, fell by between 87%

Table 2

United States: Percentage War Risk Insurance Rates on Cargo for Selected Routes and Dates, as Quoted by Commercial Underwriters[a]

	1941	1942		1943			1944		
	Dec.[b]	March	Aug.	March	June	Oct.	Jan.	June	Dec.
From Atlantic ports to:									
United Kingdom (west coast)	7.5	7.5	10	10	7.5	4	3[d]	1.5[d]	0.75[d]
Egypt	6[c]	6	30	17.5	10	7	6 }	4.0	3.0
Red Sea ports	2.5	5.5	25	15.0	10	7	6 }		
India (Calcutta)	2	10	30	17.5	12.5	8.5	7.5	4.0	3.0
Caribbean	0.075	4	15	6	4	2	0.75	0.375	0.25
South America south of Paramaribo	0.1	4.5	25	10	7	4	2.5	1.25	0.5
Gulf of Mexico (Coastal)	0.05	4	15	5	4	2	0.75	0.25	0.15
Australia, New Zealand via Panama	1	6	25	12.5	9	5	4	2.0	1.25
From Pacific ports to:									
Australia, New Zealand	0.75	6	7.5	6	5	4	3	1.5	1.0

[a] *The Journal of Commerce and Commercial* (New York). The rates refer to the middle of the month indicated.
[b] United States ships only.
[c] Imports (exports 7.5%) foreign ships only.
[d] From Atlantic ports not south of Cape Hatteras.

[1] Statement of the Prime Minister in the House of Commons, August 2nd, 1944. Submarine warfare is reported to have flared into renewed activity in December 1944, but not so as to affect the low war risk insurance rates.

and 95%, to South America by 98%, and to the Caribbean and Gulf ports by 98-99%.

The chief producer of new merchant ships was the United States, though there was a considerable output elsewhere, particularly in the United Kingdom and Canada. The spectacular increase in United States production from 1942 is shown in Table 3 and Diagram 2.

Table 3

United States Ship Completions, as Reported by the Maritime Commission

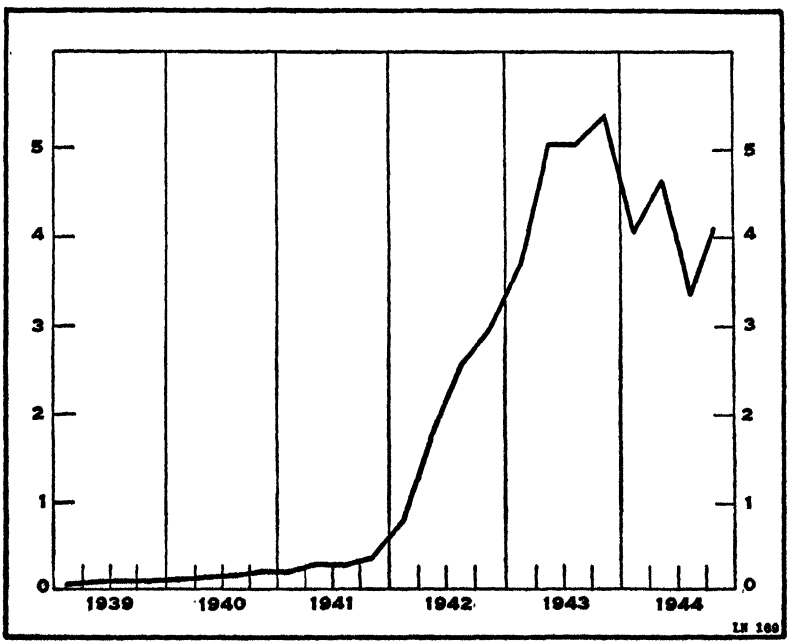
In thousands of deadweight tons

Quarter	1939	1940	1941	1942	1943	1944
1st	49	107	197	779	3,757	4,116
2nd	92	168	286	1,771	5,056	4,698
3rd	109	151	280	2,561	5,019	3,426
4th	92	208	325	2,980	5,406	4,103
Year	342	635	1,088	8,091	19,238	16,343

Diagram 2

United States: Quarterly Ship Completions

In millions of deadweight tons



Production of ships in the United States in 1941 though 60% higher than in 1940 had amounted to only 1.1 million deadweight tons.[1] In 1942, however, production rose to over 8 million, and in 1943 to over 19 million deadweight tons. The United States thus became an important supplier of ships just at the time when shipping losses were rapidly decreasing. United States production in 1943 alone corresponded to a fifth of the world's merchant marine before the war. In the course of 1943 the rate of increase in United States shipbuilding slowed down. The tonnage produced in 1944 was 16.3 million deadweight tons or 15% less than in 1943, and the production planned for 1945 is 13 million deadweight tons.

The tonnage figures alone, however, are not an adequate reflection of the course of production, for the quality of the ships produced has improved. The rapid expansion up to the middle of 1943 had been made possible by the construction of so-called "Liberty" ships of simplified design, suited to large-scale production, but with a speed of only 11 knots. In the fiscal year ending June 1943 such ships represented 80% of the number of ships produced; but in 1943/44 the proportion of "Liberty" ships fell to 56% and there was a corresponding increase in that of faster ships, chiefly of the "Victory" type, with a speed of 15-17 knots.

In the United Kingdom, in accordance with an agreement made with the United States, about 70% of the shipbuilding effort has been devoted to naval construction, including that of landing craft. "Repairs to merchant vessels absorbed more than half the manpower available for merchant work; this was due to damage caused not only by enemy action, but also by the abnormal weather met with in the high latitudes frequented by convoys to and from North America and Russia. At one period the amount of merchant shipping in hand for repair was over 2½ million tons."[2] Nonetheless, the merchant vessels completed in the United Kingdom from the beginning of the war to the end of 1943 totalled 4.7 million gross tons or 7 million deadweight tons, equal to almost a fourth of the construction in the United States during the same period. Of this amount, 0.2 million gross tons were completed in the last four months of 1939, 0.8 million in 1940, 1.2 million in 1941, 1.3 million in 1942 and 1.2 million in 1943. Recently, extended use has been made in British shipbuilding of modern pre-fabrication and pre-assembly construction methods.

Canada is estimated to have launched 2 million gross tons (about 3 million deadweight tons) between 1940 and the end of 1943. Early in January 1945 it was stated by the Canadian Minister of Trade that

[1] The figure for deadweight tonnage of average-sized ships exceeds that of gross tonnage by about 50%.

[2] Quoted from *Statistics Relating to the War Effort of the United Kingdom* (Cmd. 6564).

"when the Canadian programme is completed, as it will be within the next few months except for a few vessels, it will have turned out roughly 400 ships of various types, totalling around 2.7 million gross tons or 3.7 million deadweight tons."

Despite the reduction in losses and the increase in production in the course of 1942, the United Nations merchant marine is estimated to have experienced a net loss of one million deadweight tons (approximately 100 ships) during that year.[1] The information available suggests that the whole of this loss occurred during the first half of the year; during the second half there appears to have been a net gain.[2] In 1943 the gain was very marked. By the end of November 1943, all the losses suffered by the United Nations since the beginning of the war had been replaced; the tonnage of their merchant vessels had then reached the pre-war figure of 57 million deadweight tons. In view of the rate at which ships have been built during the past year the tonnage must have increased considerably since then.

Besides the increase in the number of ships available, another source of improvement has been the shortening of shipping routes. Through their occupation of North Africa and Sicily between November 1942 and July 1943 the United Nations gained control of the shipping lanes through the Mediterranean. The elimination of the long route round the Cape of Good Hope to the Middle East and India released more than 200 vessels (aggregating over 2 million deadweight tons) for other uses and greatly shortened the time required for shipping supplies. Early in 1945 the Black Sea was opened for Allied shipments and the supply route to the U.S.S.R. thus greatly shortened. Advantages for shipping between certain Atlantic ports were obtained when Portugal agreed in the autumn of 1943 to the British request for temporary use of naval and air bases in the Azores. In the Pacific certain shipping routes were shortened as a result of the advance of United States forces.

The rapid increase in the mercantile tonnage available and the shortening of shipping routes does not necessarily imply that the United Nations' shipping problem has been solved. The major military campaigns undertaken simultaneously in western Europe and in the Pacific caused an acute strain on the shipping situation in the latter part of 1944. In August 1944 about 5 million deadweight tons of shipping under the United States flag were engaged in various shuttle services within the three principal war areas. The following figures show how the United States War Shipping Administration, which is

[1] According to a statement by the United States Navy in April 1943.

[2] This is implied by an official statement to the effect that during the six months from August 1942 to January 1943, inclusive, the United Nations joint mercantile fleet had grown by 1¼ million deadweight tons.

in charge of 95% of the United States merchant marine, allocated the tonnage under its control in 1942 and 1943.[1]

	1942 and early part of 1943	End of 1943
	%	%
"Army cargo"	41	49
"Navy cargo"	13	10
Lend-Lease material and commodities	30	29
Essential raw materials and civilian necessities for the United States	16	12
Total	100	100

As little as 16% was thus engaged in carrying "essential raw materials and necessities for the United States" in 1942 and the early part of 1943, and the figure had fallen to 12% at the end of 1943. But owing to the growth of the fleet, this 12% carried a greater volume of cargo than the 16% had transported a year earlier. Nonetheless, in August 1944 the shipping situation, according to the Chairman of the United States Maritime Commission and War Shipping Administration, was "extremely tight" and would continue to be so throughout the third quarter of the year and probably throughout the fourth quarter. In fact, the shortage of shipping space was still very acute in the early months of 1945, and made it difficult to supply the liberated European countries with urgently required overseas products.

The necessity for husbanding the available shipping facilities is reflected in the measures taken to perfect the co-ordination of sea transport among the United Nations. In an agreement concluded on August 5th, 1944, eight United Nations Governments[2] undertook "as a common responsibility the provision of shipping for all military and other tasks necessary for, and arising out of, the completion of war in Europe and the Far East and for supplying of all the liberated areas as well as of the United Nations generally and territories under their authority." The allocation of shipping is to be determined by a central authority consisting of a council (United Maritime Council) and an executive board (United Maritime Executive Board). The arrangement provides also that ships of all flags performing the same or similar services shall charge the same freight rates, and that ships must be employed as required without regard to financial considerations.

As the shipping situation of the United Nations is so largely governed by military requirements, it naturally evades an analysis confined to the economic aspects of ocean transportation. The same is true for other forms of transportation, which have been in large part

[1] U.S. War Shipping Administration, Report 1942-1943 (*U.S. Merchant Marine at War*).

[2] *I.e.*, those of Belgium, Canada, Greece, the Netherlands, Norway, Poland, the United Kingdom and the United States.

mobilized for war purposes. A few indications will suffice, therefore, to indicate the general trends in transport by rail and road.

In the United States rail traffic and commercial road traffic have greatly increased, in spite of the more extensive use of pipe lines for the transport of oil from Texas to the Atlantic Coast.[1] As the following table shows, the volume of rail traffic in 1944 was about 2½ times its pre-war level, and inter-city motor traffic by trucks and buses had risen almost as much.

Table 4

United States: Indices of Volume of Transportation

(1935-1939 average = 100)

Period	Rail traffic			Inter-city motor traffic			Air Traffic	Oil and gas pipe lines	Combined index[b]
	Goods[a]	Passengers	Total	"For hire" trucks	Buses	Total			
1938	90	98	91	101	105	102	112	106	95
1939	104	103	104	114	104	112	142	110	106
1940	115	108	114	130	110	125	198	117	117
1941	146	133	145	172	143	165	259	130	142
1942	194	244	200	190	214	195	315	149	179
1943	219	400	240	211	279	227	425	189	214
1944	223	434	247	210	291	229	580	252	224

[a] This index rose much more than that of freight car loadings (which stood at 138 in 1943), owing to an increase in the average load as well as in the average haul.

[b] Including certain types of transportation not considered in the previous columns (local rail transit and water-borne domestic traffic).

The larger volume of railway traffic was handled with an equipment substantially the same as before the war. Thus, in 1943, there were 5% fewer freight locomotives than in the first half of 1939, only 6% more freight cars, 13% fewer passenger locomotives and 1% fewer passenger cars. Motor-truck transportation has increased in spite of the fact that the number of trucks in operation, amounting to about 5 million late in 1941, had been reduced by about 8% two years later.

Railway traffic in the United Kingdom, again largely in connection with the war effort, has also increased considerably since 1939, as the following table shows.

Road traffic by private motor cars has very greatly declined. The number of such cars licensed fell from 2 million in August 1939 to 700,000 at the beginning of 1944, and the amount of motor spirit used by private cars is only about an eighth of what it was before the war. The number of passengers carried by buses has increased by almost a fifth, and the number of passenger miles of bus traffic by a third.

[1] The so-called "Big Inch" line came into operation in August 1943 and the second line early in 1944; together these lines have an operating capacity of 560,000 barrels daily, or over one-third of the volume of oil transported to the Atlantic Coast before the war. Up to 1942, 95% of the oil was sent by tankers.

Table 5

Traffic on Main-line Railways in Great Britain

	Passenger traffic		Freight traffic in ton miles (000,000's)		
	Number of journeys (000,000's)	Passenger miles	Merchandise	Minerals	Coal, coke and patent fuel
1935-38 (average)	1,177	.	.	.	.
1938-39	.	.	5,192	3,182	8,295
1942	1,161	.	8,593	5,279	9,951
1943	1,268	.	9,659	5,355	9,343
Increase from 1935-38 (1938-39) to 1943	8%	60%	86%	68%	13%

This is in spite of restrictions which, for instance, in 1941 reduced the total mileage of bus routes by 40%. Inland waterways carried almost the same tonnage in 1943 as before the war.

In Canada the number of ton-miles of goods carried by rail more than doubled between 1939 and 1943, while the number of passengers increased 3½-4 times.

The transport system of the Soviet Union has successfully performed the gigantic task of supplying the Soviet armies engaged in recovering the territories occupied by Germany. Important arteries of communication were freed after the battle of Stalingrad, beginning with the restoration of shipping on the Volga, which normally accounts for half the inland water traffic of the U.S.S.R. As the front moved westward, railways which had been largely destroyed during the retreat and then converted by Germany to European standard gauge had to be restored and reconverted.[1] Lend-Lease supplies received from the United States which contributed to the Russian success included, up to December 1, 1944, 362,000 motor vehicles, 1,045 locomotives, 7,160 flat cars, 1,000 dump cars, 100 tank cars and 478,000 tons of other railway equipment. In spite of obvious difficulties, the Soviet Union has continued to extend its railway net behind the front lines. Among the achievements of 1943 may be mentioned the completion of the North Pechora railway of 1,847 kilometres, linking the central part of European Russia with the arctic region.

The position of German-controlled shipping has rapidly deteriorated since the Allied Powers obtained supremacy in the air over western Europe and control over the greater part of the Mediterranean. Heavy losses were incurred in the process of shipping supplies to the German and Italian forces in North Africa up to the early

[1] Of late, the gauge of Soviet rolling stock is reported to have been changed so as to permit its use on the standard gauge railways of the west.

part of 1943.[1] According to an estimate by the British Admiralty, the volume of German and Italian shipping sunk or damaged by surface ships, submarines, planes and mines during the 46 months of war up to the end of 1943 exceeded 10 million gross tons,[2] of which 2½ million were sunk or damaged in the course of 1943. The total tonnage lost or damaged was well in excess of the aggregate tonnage of German and Italian ships at the beginning of the war (7½ million gross tons). It should be observed, however, that Germany had in the meantime gained control of a considerable amount of foreign shipping through her occupation of various European countries. It is reported that Germany had to resume the construction of cargo ships in order to maintain communications with northern Norway, when, in the summer of 1943, Sweden no longer permitted the transit by land of war material for German forces in Norway. The pressure on German shipping in 1944 was increased by the tightening of the British blockade (as, for instance, through the imposition of the embargo on shipping through the Bay of Biscay in February), by the intensified bombing of German ships and ports, and by a series of measures taken by Sweden. The last included (i) the suspension of the remaining (civilian) transit between Norway and Germany through Sweden (in September); (ii) the suspension through the withdrawal of Government war risk insurance (in August) of traffic by Swedish ships calling at German ports; and (iii) the closing of all Swedish ports on the Gulf of Bothnia and the Baltic Sea to foreign shipping (in September).[3]

Traffic by rail and road in Continental Europe was affected by German attempts to coordinate and direct the various national transport systems in the service of the German war effort. The control over goods transported by rail between southeastern Europe and "Greater Germany" as well as western and northern Europe, was vested in special agencies (*Frachtenleitestellen*) with headquarters in Berlin, and the control of railways in Germany and the occupied countries was exercised, in large measure, through the same or similar regulations.

Increased commercial or military traffic called for new road and railway construction in certain parts of German-dominated Europe. Strategic railways were built in Poland, Norway and occupied areas of the Soviet Union (thus, one line linked the Crimea with Kherson

[1] In his speech of May 19th, 1943, before the United States Congress, Prime Minister Churchill indicated that the "African excursion" has cost Germany and Italy 2.4 million gross tons of shipping.

[2] As mentioned earlier, a given number of gross tons is normally equivalent to an approximately 50% greater number of deadweight tons.

[3] Since, at the same time, access to ports on the Swedish West Coast was in large measure blocked by Swedish minefields, Sweden's trade with Germany practically came to an end.

by way of the Perekop Isthmus). In Bulgaria a number of new railways were constructed and others double-tracked. In Denmark certain railway lines were double-tracked to handle the increase in traffic due to the more extensive use of domestic fuel (as imports of coal were reduced) and to the reduction in road transport. In France and elsewhere a few railway lines were electrified in order to save coal. On the whole, however, railway construction and maintenance were neglected in western Europe, and the rolling stock, particularly of France and Belgium, was reduced. A large part of it was taken over by Germany for use chiefly in the areas occupied by her in Eastern Europe. To the losses from this cause were added those due to wear and tear and, particularly after the middle of 1943, to air bombardment. The French State railways, which now embrace the major part of the French railway system, record reductions up to September 1943 of 30% in the number of locomotives (40% in the case of heavy locomotives), 53% in the number of freight cars and 36% in the number of passenger cars. During the last few months of 1943 and the early part of 1944 the reduction continued at an accelerated pace and at the time of the liberation of France the number of serviceable locomotives had fallen to 24%. In Belgium the depletion of rolling stock had gone even further than in France—in the middle of 1943 only a third of the freight cars remained. Even the rails of existing railways are reported to have been transported from France and Belgium to the Eastern front. In Belgium, 375 out of 3,200 miles of track had been removed by the end of 1942.

The whole of Germany's need for railway equipment could not be met in this way, and late in 1942 the production of locomotives in Germany had to be increased. The existing 119 types of locomotives in production were reduced to 13 standard types, of which the manufacture on a large scale afforded substantial savings of materials, particularly copper and tin, as well as of labour. Locomotive production is said to have risen in May 1943 to a level three times higher than the monthly average for 1941. It is reported that the process of manufacturing railway cars was standardized and simplified. Various measures were taken to economize existing transport facilities: maximum haulage distances were fixed for certain goods, efforts were made to produce certain goods (as for instance beer and flour) in or near principal consumption centres; and civilian passenger travel over longer distances was further reduced and made subject to authorization in each case, etc.

The volume of railway traffic in Germany increased up to 1943. In 1941, the ton-mileage of goods traffic was 32% higher than in 1940; later increases are reflected (given the fact that rates and fares have

been constant) in the figures for the receipts of the German State railways:

	Reichsmarks (000,000's)		
Receipts on account of:	1941	1942	1943
Passengers and luggage	3,250	4,032	5,261
Goods	5,283	5,186	5,663

In the course of 1944, railway traffic in Germany was, however, increasingly affected by Allied air attacks, even though the retreat of the German armies seems to have led to a numerical increase in rolling stock inside Germany's frontiers.

In France, despite the reduction in rolling stock, the ton-mileage of goods traffic on the State railways was greater in 1942 than in 1938. This was due to an increase in the average load per car and in the average length of haul. The number of passengers carried had also risen.

	Daily car loadings	Average load per car, tons	Goods in tons (000,000's)	Ton-miles (000,000's)	Passengers (000,000's)
1938[a]	37,560	9	115	24	540
1942	25,860	13	102	27	580
1943	21,920	..	...	..	...

[a] Excluding Alsace-Lorraine.

Figures of this kind, however, must be considered in the light of the fact that a large part of the transport facilities in the occupied countries were more or less directly in the service of Germany—first for supplying German military forces stationed in those countries, and secondly for transporting goods to Germany. The volume of railway traffic serving the interest of the occupied countries was reduced, not only because of the lack of sufficient equipment, but also because of the growing scarcity of fuel. Thus, in France, the number of trains in use was further reduced in November 1943, and at the same time restaurant- and sleeping-car service was discontinued. On the Belgian State railways commercial freight traffic declined to 62% of its 1938 volume in 1942 and 56% in 1943. The total freight traffic (including that for the occupying forces) as well as the passenger traffic was maintained approximately at its pre-war level.

The severe restrictions on non-military traffic in Germany and the countries occupied by her reflects the degree to which transport facilities were strained in the areas concerned. In the occupied Russian territories the lack of equipment made it necessary to divide the railways into minor zones, each with its own locomotives—an arrangement which did not permit rapid through traffic and was in obvious contradiction to the declared policy of railway integration.[1]

[1] Herbert Block, "European Transportation under German Rule," in *Social Research*, May 1944.

In some ways, the loss of the territories in question tended to relieve the German transport situation. But the simultaneous intensification of the war and its spread to new fronts more than offset any gain resulting from the shortening of supply lines. The bombing of railway installations and rolling stock, particularly from the autumn of 1943, greatly hampered traffic in certain parts of Germany, Belgium, Italy and northern France. Road traffic was affected by the growing shortage of motor fuel. The shortage of rubber tires was another limiting factor which explains why little progress was made during the period in using "producer gas" as motor fuel. Traffic on inland waterways has also been adversely affected by military operations. Thus, in April 1944, the Danube was so successfully mined by allied aircraft that traffic on the river had to be temporarily suspended. By an arrangement with the Allied powers, Switzerland suspended the transit traffic in coal and iron between Germany and northern Italy early in 1945.

In certain of the areas wrested from German domination, economic activities were to a large extent paralyzed as a result of damage to transport facilities. In Belgium, the canal system suffered heavy damage. In many parts of France, the destruction of bridges, stations, repair shops and other installations made railway traffic for a time almost impossible. Some of the damage, however, particularly in the case of railway bridges, was quickly repaired, and in February 1945 it was stated that the Allied authorities had brought to France 1,500 steam locomotives, 3,000 Diesel locomotives and 26,000 freight cars.

In southern and central Italy the systematic destruction of electric power plants and transmission lines by the retreating German troops paralyzed the transport system, since the Italian railways depend on electricity for most of their power supply.

The transport situation in Free China has remained extremely difficult. But the closing of the Yunnan-Burma highway as a result of the Japanese occupation of Burma in May 1942 has not entirely cut the country off from foreign supplies. Goods have continued to enter by air and by road. It is reported that the "American air highway" from India to Yunnan province in China carries "far more tonnage than was ever delivered or was likely to be delivered, in measurable time, over the Burma road."[1] Simultaneously the work on new land connections of strategic importance has been pushed. Thus, a pipe line for the delivery of petrol has been laid from Calcutta up the Brahmaputra Valley through Assam into North Burma and is being extended into the central Yunnan area in China. When completed, this pipe line

[1] Statement by Prime Minister Churchill in his review of the war in the House of Commons on August 2nd, 1944.—The amount of goods carried over the Burma road before April 1942 seldom exceeded 15,000 tons monthly (*Sixteenth Report to Congress on Lend-Lease operations*, page 33).

will be the longest in the world—nearly 2,000 miles. Through the cooperation of the Allied powers, a supply route to China has been arranged by way of Iran and the Soviet Turkestan-Siberian railway. At the end of January 1945 a new land road from Ledo in India over northern Burma was linked with the upper stretch of the so-called "Burma Road." Internal transport is very inadequate in Free China, which even before the recent Japanese advance along important railways in central and southern China included only 15% (3,000 kilometres) of the total Chinese railway system. Efforts have been made to improve and extend existing transport facilities, but a great setback was suffered when Japanese forces gained control of the greater part of the Canton-Hankow railway in the autumn of 1944 and virtually cut Free China in two parts.

As was indicated in the previous *Survey*, Japan's shipping losses during the early part of the war in the Pacific were largely offset by gains resulting from the chartering, seizure and salvage of non-Japanese ships. In March 1943, however, the United States Secretary of the Navy stated that, out of an estimated total of 6.4 million gross tons of Japanese shipping in 1941, between a fourth and a third had been destroyed by United States forces, and that replacements had accounted for only about half of the loss, so that a net loss of 14% was likely to have occurred. In September 1943 the Secretary of the Navy stated that a third of the Japanese tonnage of 1941 plus replacements (which by then amounted to 1¼ million gross tons) had been sunk. Accordingly the net loss by that time must have risen to over 20%. Since then Japan's shipping situation has gone from bad to worse. She has been losing ships at an increasing rate—average monthly sinkings of Japanese vessels (including warships) by United States submarines alone rose from 10 in 1942 to 20 in 1943 and 42 in the first eight months of 1944. Late in December 1944 the United States Secretary of the Navy announced that sinkings of Japanese merchant ships by United States submarines since the beginning of the war exceeded 3½ million deadweight tons. As American naval and air bases in the Pacific have moved nearer to the Asiatic mainland, not only has Japan's commercial intercourse with southeastern Asia been in large part paralyzed, but her ships have had increasing difficulty in supplying her military forces in this area.

At the same time, however, the Japanese advance along important railway lines in China has opened new though by no means adequate supply routes overland. Early in December 1944 the distance of less than 100 miles between Nanning and the terminus of the Indo-China railway system represented the only gap in a Japanese supply corridor stretching from Manchuria to Singapore.

In considering the changes in the world's merchant marine as a whole, it is interesting to note that the amount of merchant tonnage

sunk during the war up to the end of 1943 may have exceeded half the world tonnage of 65 million gross tons or approximately 100 million deadweight tons at the beginning of the war. The tonnage of new ships launched during the same period was probably well below the shipping losses, and though the world's mercantile marine increased during the first nine months of 1944, it may still be smaller than it was before the war. The distribution of the total world tonnage among nations has changed greatly. The United States merchant tonnage, which before the war represented only one-eighth of that of the world, has increased both absolutely and relatively. The tonnage of the ships controlled by the United States War Shipping Administration, and comprising, as was mentioned above, the great bulk of the United States merchant marine, rose from less than 12 million deadweight tons in February 1942 to almost 30 million at the end of 1943 and over 35 million in the middle of 1944. The mercantile marine under the British flag, which before the war represented 17½ million gross tons (about 26 million deadweight tons) had by the end of 1943 fallen to 15½ million, or rather, if allowance is made for ships which in due course will be returnable to other flags, to 13½ million (about 20 million deadweight tons)—a decline of 23% since the beginning of the war. The merchant tonnage of the countries of Continental Europe, which before the war represented two-fifths of the world tonnage, appears to have shrunk by half at the end of 1943. The losses are not confined to ships in German-controlled trade; countries such as Norway and Greece, which have been able to engage the bulk of their fleets in traffic outside Europe between United Nations ports, have suffered extremely heavy losses, and replacements have been inadequate. Canada and a number of Latin-American countries have increased their merchant marine and even Switzerland has acquired a number of ocean-going ships.

ANNEX

(pages 293-299)

ANNEX: *Quarterly Merchandise Trade*

Million U.S.A. Dollars. Special Trade.

1. World except Continental Europe.

IMPORTS

Country or Group	Quarterly Average							1943				1944			
	1938	1939	1940	1941	1942	1943	1944	1	2	3	4	1	2	3	4
Africa	368	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Algeria, Tunis, Fr. Mor.	62	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Union of South Africa	112	93	99	*101	*84	...	...	...	...	...	...	...	...	...	...
Egypt	45	38	30	34	57	39	...	...	...	...	...	...	...	...	...
Gold Coast	9	8	7	6	8	8	8	7	7	9	8	8	8	8	9
Nigeria[b]	10	7	7	6	11	...	...	11	...	...	...	...	...	...	...
Mozambique	5	4	4	4	6	7	...	4	6	9	8	...	...	...	...
Other countries	125	...	...	...	...	...	...	...	...	...	...	...	...	...	...
North America	663	752	882	1139	1083	1252	1391	1121	1265	1299	1324	1364	1500	1313	1389
United States	487	569	635	806	693	844	978	755	841	888	894	972	1078	876	987
Canada	169	177	241	325	371	392	398	350	408	395	414	376	406	422	387
Other countries G	7	6	6	*8	19	*16	*15	16	*16	*16	*16	*16	*16	*15	*15
Mexico and Caribbean	159	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Mexico G[a]	27	30	31	47	39	47	97	36	51	47	53	62	[a]187	70	69
Other republics	50	50	48	62	64	79	...	85	72	80	79	*86	*83	...	...
Curaçao G	54	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Other countries	28	...	...	...	...	...	...	...	...	...	...	...	...	...	...
South America	304	267	275	273	258	270	...	231	248	302	298	271	339	...	...
Argentine	111	88	99	85	85	64	67	55	65	73	64	60	67	73	69
Brazil G	74	66	63	70	60	78	103	63	60	93	95	79	112	95	124
Venezuela G	24	26	23	19	16	17	...	15	19	18	14	19	51	42	...
Chile	26	21	26	27	32	33	36	27	30	33	41	33	31	35	46
Peru	15	12	13	14	13	17	20	13	16	19	21	17	15	24	23
Other countries	54	54	51	58	52	61	...	58	58	66	63	63	63	...	...
Asia (excl. U.S.S.R.)	867	889	941	...	...	...	...	...	...	...	...	...	...	...	...
Japan, Korea, Formosa G[d]	202	203	217	...	...	...	...	...	...	...	...	...	...	...	...
Manchuria G[e]	90	111	*107	...	...	...	...	...	...	...	...	...	...	...	...
Other occup. countries[f]	258	250	270	...	...	...	...	...	...	...	...	...	...	...	...
Thailand	13	12	*14	...	...	...	...	...	...	...	...	...	...	...	...
China[g]	65	100	150	*178	...	...	...	...	...	...	...	...	...	...	...
India	137	130	115	127	80	85	...	90	84	83	85	103	...	...	...
Ceylon	20	18	19	19	...	...	...	...	...	...	...	...	...	...	...
Other countries[f]	82	*65	*49	*42	...	...	...	...	...	...	...	...	...	...	...
Oceania	190	162	172	178	222	320	260	299	318	350	311	275	256	292	217
Australia G[h]	128	110	127	131	170	234	186	233	228	236	238	210	163	194	176
New Zealand[a]	54	44	37	39	43	77	65	57	81	105	64	56	84	89	32
Other countries	8	*8	*8	*8	*9	*9	*9	*9	*9	*9	*9	*9	*9	*9	*9
Non-continental Europe	1102	983	1187	1178	1054	1260	...	...	...	...	...	...	...	...	...
United Kingdom[i]	1049	932	1136	1142	1007	1222	...	...	...	...	...	...	...	...	...
Ireland G, Iceland	53	51	51	36	47	38	...	35	40	38	40	40	36	42	...
U.S.S.R.	67	...	...	...	...	...	...	...	...	...	...	...	...	...	...
TOTAL IMPORTS	3720	...	...	...	...	...	...	...	...	...	...	...	...	...	...

* Partly estimated; G General trade; ... Amount unknown.

[a] Including bullion and/or specie, *viz.* (Quarterly averages):

	IMPORTS						EXPORTS					
	1938	1939	1940	1941	1942	1943	1938	1939	1940	1941	1942	1943
Gold Coast (bullion)			Excluded				6.0	6.8	7.3	7.0	...	...
Nigeria (bullion)			Excluded				0.2	*—	*0.1	*0.1	—	...
Mexico (bullion and specie)	—	—	—	—	*—	2.5	14.2	12.7	13.1	7.8	*14.6	2.6
New Zealand (bullion)	—	...	...	...	...	...	1.3	...	...	...	...	...

Note: Imports into Mexico in June Quarter 1944 include 103 gold.

[b] From 1.VI.40, General trade; the Re-exports (Quarterly average) were 0.3 in 1938.

[c] For 1941 and later, including lend-lease exports, *viz.* (Quarterly av. per year): 1941, 185; 1942, 1224; 1943, 2501; 1944, 2822.

[d] Excluding inter-trade of the three countries.

[e] Of which, trade with rest of China was: Imp. from China 5;4;*5; Exp. to China: 9;11;*11.

[f g h i] *See* foot of Exports portion of table.

See also General Note at foot of Table 2.

ANNEX: *Quarterly Merchandise Trade, continued*

Million U.S.A. Dollars. Special Trade.

1. World except Continental Europe, *continued.*

EXPORTS

Country or Group	Quarterly Average							1943				1944			
	1938	1939	1940	1941	1942	1943	1944	1	2	3	4	1	2	3	4
Africa	262	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Algeria, Tunis, Fr. Mor.	61	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Union of South Africa	36	37	35	...	...	...	...	...	...	...	...	...	...	...	...
Egypt	36	37	27	23	19	26	...	...	...	...	...	...	...	...	...
Gold Coast[a]	13	14	14	13	12	12	12	14	11	14	9	11	14	11	11
Nigeria[ab]	11	11	11	14	14	...	...	14	...	...	...	...	...	...	...
Mozambique	3	1	2	2	3	4	...	3	5	4	3	...	...	...	...
Other countries	102	...	...	...	...	...	...	...	...	...	...	...	...	...	...
North America	984	1012	1259	1635	2541	3839	4337	2920	3717	4445	4274	4106	4870	4301	4071
U.S. of America[c]	764	781	983	1255	1990	3148	3536	2407	3041	3664	3479	3401	3949	3557	3238
Canada	211	223	270	373	542	682	792	504	667	772	786	696	912	735	824
Other countries G	9	8	6	*7	9	*9	9	9	*9	*9	*9	*9	*9	*9	*9
Mexico and Caribbean	170	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Mexico G[a]	47	43	44	38	51	58	52	60	66	51	55	58	57	51	41
Other republics	54	56	46	71	68	116	...	88	118	126	131	*136	*168	...	...
Curaçao G	47	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Other countries	22	...	...	...	...	...	...	...	...	...	...	...	...	...	...
South America	360	375	345	387	412	494	...	...	...	...	...	...	...	...	...
Argentine	110	117	108	110	132	162	177	115	144	190	200	190	167	170	180
Brazil G	74	77	66	85	96	112	138	78	113	121	136	120	136	134	162
Venezuela G	68	74	62	69	51	64	...	...	...	...	...	...	...	...	...
Chile	35	34	35	40	44	45	49	43	46	53	37	51	41	49	55
Peru	19	18	17	19	19	18	21	16	17	18	19	18	21	21	23
Other countries	54	55	57	64	70	93	...	79	94	108	90	*88	*97	...	...
Asia (excl. U.S.S.R.)	871	922	956	...	...	...	...	...	...	...	...	...	...	...	...
Japan, Korea, Formosa G[d]	205	253	233	...	...	...	...	...	...	...	...	...	...	...	...
Manchuria G[e]	51	52	*42	...	...	...	...	...	...	...	...	...	...	...	...
Other occup. countries[f]	308	331	388	...	...	...	...	...	...	...	...	...	...	...	...
Thailand	19	20	*21	...	...	...	...	...	...	...	...	...	...	...	...
China[g]	38	28	29	*39	...	...	...	...	...	...	...	...	...	...	...
India	148	152	158	167	155	140	...	129	151	131	151	168	...	...	...
Ceylon	24	25	27	29	...	...	...	...	...	...	...	...	...	...	...
Other countries[f]	78	*61	*58	*41	...	...	...	...	...	...	...	...	...	...	...
Oceania	198	169	187	180	193	175	186	172	165	179	186	187	165	200	192
Australia G[h]	130	106	120	115	116	106	117	110	96	107	112	117	105	125	121
New Zealand[a]	57	52	56	54	65	58	58	50	58	61	62	59	49	64	60
Other countries	11	*11	*11	*11	*12	*11	*11	*12	*11	*11	*12	*11	*11	*11	*11
Non-continental Europe	608	523	455	410	316	274	...	247	285	293	270	277	324	250	...
United Kingdom[i]	575	491	415	369	273	235	260	213	246	258	222	239	288	211	303
Ireland G, Iceland	33	32	40	41	43	39	...	34	39	35	48	38	36	39	...
U.S.S.R.	63	...	...	...	...	...	...	...	...	...	...	...	...	...	...
TOTAL EXPORTS	3516	...	...	...	...	...	...	...	...	...	...	...	...	...	...

* Partly estimated; G General trade; ... Amount unknown.

[a] to [e] *See* foot of Imports portion of table.

[f] Namely, respectively (Quarterly averages):

	IMPORTS						EXPORTS					
Japanese-occupied:	1938	1939	1940	1941	1942	1943	1938	1939	1940	1941	1942	1943
Burma	19	19	20	22	...	...	43	44	40	49	...	...
British Malaya G	78	81	97	...	...	...	81	94	132	...	...	...
French Indo-China	14	15	*16	...	...	...	21	22	*25	...	...	...
Hong Kong G	47	41	43	...	...	...	39	37	36	...	...	...
Philippines	33	30	34	*37	...	...	29	30	30	...	...	...
Netherlands Indies	67	64	60	*62	...	...	95	104	125	*138	...	...
"Other countries" of Asia:												
Iran G	23	18	14	11	14	*18	38	31	37	24	26	29
'Iraq (incl. petroleum)	11	9	8	7	12	16	*10	*8	*6	*6	*7	...
Palestine	18	16	11	12	20	...	7	6	2	2	4	...
Syria-Lebanon G	14	9	6	4	...	...	9	5	2	1	...	...
Other countries	16	*13	*10	*8	...	...	14	*11	*11	*8	...	...

Note: The Syria-Lebanon corresponding Special Trade figures for 1938 are: Imports 9; Exports 4.

[g] Excluding Manchuria and the trade therewith.

[h] The Re-exports included are (Quarterly averages 1938-43): 1.8; *1.7; *1.6; *1.6; ...; ....

[i] Including lend-lease and reverse lend-lease (...). In 1939-41, including Government trade in "munitions" (...); excluded thereafter, *viz.*: Imports, 1942 and 1943 respectively (Quarterly average): 198; 659; Exports .... Exports exclude stores for British armed forces.

See also General Note at foot of Table 2.

ANNEX: *Quarterly Merchandise Trade, continued*

Million U.S.A. Dollars. Special Trade.

2. Continental Europe (excluding U.S.S.R.).

Country	Quarterly Average							1943				1944			
	1938	1939	1940	1941	1942	1943	1944	1	2	3	4	1	2	3	4
IMPORTS															
Germany, Austria	609	480	500	700	880	840	...	...	...	...	...	...	...	...	...
Bulgaria[a]	15	16	21	31	39	...	...	25	56	...	...	...	...	...	...
Finland[ab]	46	38	25	51	59	65	45	68	66	67	58	57	52	53	16
Hungary[c]	30	35	43	53	67	83	...	71	90	93	78	85	...	...	...
Italy	147	134	...	...	...	...	...	...	...	...	...	...	...	...	...
Roumania	34	41	34	...	...	...	...	...	...	...	...	...	...	...	...
Denmark	89	89	67	64	64	65	62	67	66	66	60	57	71	64	54
Greece	33	25	20	8	[f]7	...	...	...	...	...	...	...	...	...	...
Norway	72	79	54	[f]67	...	...	...	...	...	...	...	...	...	...	...
Other occup. countries[d]	911	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Portugal	25	21	22	25	25	33	...	20	33	35	45	28	43	...	...
Spain[a]	*38	*36	51	45	50	75	...	57	78	76	88	...	...	...	...
Sweden	131	150	119	100	106	108	99	110	100	116	107	107	116	100	74
Switzerland[a]	92	106	105	118	119	100	69	112	116	87	86	87	88	59	41
Turkey	30	23	13	...	28	39	...	...	...	...	...	...	...	...	...
Other countries[e]	5	...	...	...	...	...	...	...	...	...	...	...	...	...	...
TOTAL IMPORTS	2307	...	...	...	...	...	...	...	...	...	...	...	...	...	...
EXPORTS															
Germany, Austria[g]	566	520	490	690	770	870	...	...	...	...	...	...	...	...	...
Bulgaria[a]	17	18	21	28	41	...	...	54	53	...	...	...	...	...	...
Finland[a]	45	39	14	22	30	44	33	31	42	50	52	46	45	32	9
Hungary[c]	39	42	36	57	83	93	...	98	84	77	114	102	...	...	...
Italy	137	141	...	...	...	...	...	...	...	...	...	...	...	...	...
Roumania	39	47	46	...	...	...	...	...	...	...	...	...	...	...	...
Denmark	84	80	74	62	55	70	71	56	76	68	82	76	70	63	74
Greece	22	18	15	6	[f]6	...	...	...	...	...	...	...	...	...	...
Norway	47	47	35	[f]34	...	...	...	...	...	...	...	...	...	...	...
Other occup. countries[d]	745	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Portugal	12	13	15	30	39	40	...	39	35	43	44	39	31	...	...
Spain[a]	*25	*29	32	43	52	72	...	86	76	52	73	...	...	...	...
Sweden	116	113	80	81	79	69	50	57	85	75	59	42	53	48	55
Switzerland[a]	75	73	75	85	91	95	66	88	94	87	109	81	84	42	56
Turkey	29	25	20	...	32	49	...	...	...	...	...	...	...	...	...
Other countries[e]	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...
TOTAL EXPORTS	1999	...	...	...	...	...	...	...	...	...	...	...	...	...	...

* Partly estimated; ... Amount unknown.

[a] Including bullion and/or specie, *viz.* (Quarterly averages):

	IMPORTS						EXPORTS					
	1938	1939	1940	1941	1942	1943	1938	1939	1940	1941	1942	1943
Bulgaria (bullion and specie)	—	—	—	—	...	...	—	—	—	—	...	...
Finland (bullion)	0.6	0.1	—	...	...	...	—	—	—	...	...	...
Spain (bullion and specie)	*—	*—	—	—	—	...	*—	*—	—	—	—	...
Switzerland (non-banking bullion only)	1.0	1.0	*—	*—	...	...	0.1	—	*—	*—	...	...

[b] From 1.I.41, excluding arms and ammunition but including civilian goods for Army.

[c] From 1941 inclusive, converted at dollar rate prevailing in January-June 1941.

[d] Namely (Quarterly averages):

	IMPORTS						EXPORTS					
	1938	1939	1940	1941	1942	1943	1938	1939	1940	1941	1942	1943
France	332	...	...	...	130	74	219	...	...	...	149	183
Belgium-Luxemburg	192	165	[f]80	...	...	...	181	183	[f]111	...	...	...
Estonia	7	6	...	...	...	...	7	7	...	...	...	...
Latvia	11	10	...	...	...	...	11	11	...	...	...	...
Lithuania	9	7	...	...	...	...	10	9	...	...	...	...
Netherlands	195	202	*127	...	...	...	143	129	*82	...	...	...
Poland-Danzig	62	...	...	...	...	...	56	...	...	...	...	...
Czechoslovakia	73	...	...	...	...	...	88	...	...	...	...	...
"Slovakia"	—	*13	25	30	34	37	—	*19	27	27	31	35
Yugoslavia	28	27	34	...	...	...	29	31	38	...	...	...
"Croatia"	—	—	—	...	...	37	—	—	—	...	...	23
Albania	2	...	...	...	...	...	1	...	...	...	...	...
TOTAL	911	...	...	...	...	...	745	...	...	...	...	...

Note: *France*: For 1942 and later, as the bulk of French trade was with Germany, the conversion to dollars has been made from French francs through the Reichsmark, at the Fr. fr./RM rate applied in German-French transactions (Fr. fr. 20 = RM1; RM1 = $0.4033).

"*Croatia*": The same remark applies; the kuna, successor to the dinar, varied from RM 0.06 in Jan. 1941 to 0.038 in Dec. 1943. The excess of imports over exports (merchandise trade; quarterly averages; million dollars) in 1942 and 1943 respectively was: 13; 14.

[e] Chiefly Malta.

[f] Quarterly averages of: Jan.-Sept. (Norway, Belgo-Luxemburg), Jan.-June (Greece).

[g] Excluding Exports of bulk war material.

General Note to the above tables.

Where not otherwise indicated, the figures represent special trade in merchandise only, even in the case of countries which are producers and major exporters of gold.

The figures refer to U.S.A. dollars according to the 1934 parity, equalling 0.88867 gramme of fine gold, or 59.06% of the "old" gold dollar employed in certain earlier publications. Conversion from national currencies has been made in accordance with the principles stated in *Review of World Trade, 1938*, Annex I (pp. 58-59). The difficulty of making international comparison of trade values increased very much during the war owing to the adoption of exchange control in almost all countries and to blockades. In particular, the figures for Continental Europe do not lend themselves readily to comparison with those for other parts of the world. They have, accordingly, been given in a separate table.

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