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PREFACE

The economic and social problems of wartime are now the chief concern of workers, employers and Governments alike in the democratic countries. Since the war began the work of the International Labour Office has been devoted largely to these problems. The studies included in the present volume have been written by members of the Office Staff in the course of their work on subjects which have been the concern of the Office for several years. Three of the papers have already appeared in the *International Labour Review,* and another, analysing the Keynes Plan, is a revised and extended version of an article first published in that periodical. The work as a whole was planned by and carried out under the general supervision of the Economic Adviser to the Office, and each author was asked to formulate definite conclusions wherever possible in the belief that the usefulness of the work would as a result be greater than if a non-commital attitude were adopted on controversial points. It is believed that the general viewpoint of the writers is in accord with Office policy, but the International Labour Office as such is not necessarily committed to endorsement of all the conclusions reached by the authors.

Economic conditions in wartime change so rapidly that in most cases greater service is rendered by rapid publication of materials than by attempts to make them comprehensive and final. Consequently, no effort has been made to produce a unified and closely interrelated series of studies, since that could not have been done without delaying publication of the work included.

John G. WINANT,
Director.

Economic Organisation for Total War

With Special Reference to the Workers

by

E. F. Penrose

Economic Adviser, International Labour Office

THE object of this paper is to outline the general principles of economic changes arising out of the adoption of a war economy, with special reference to the welfare of workers.

In war the production of goods designed to serve constructive ends is displaced in part by the production of goods designed to serve destructive ends. This brings losses to the workers, many of whom, in spite of modern improvements in technique, are still unable, even in peace-time, to buy enough food, clothing, and housing accommodation, to maintain themselves and their families in a state of physical and mental efficiency.

It does not follow, however, that it is always contrary to the interests of the workers to wage war. The labour movement has never favoured peace at any price. The maintenance of international peace is in the interests of the workers so long as it involves no threat to the preservation of the social, economic and political gains which they have made in the past, and to their opportunities for the extension of those gains in the future. But when faced with the alternatives of war or the acceptance of a régime in which there is no place for freedom of speech and of association and the rights and liberties inherent in democratic political systems, and on which the survival of trade unions, co-operative societies, and political labour parties, depends, the workers are following the best traditions of the labour movement in turning all their energies into waging war with maximum efficiency.

The organisation of a whole nation for war is such a complicated problem that general principles are apt to be lost sight of in a mass of detail. It is of the greatest importance, therefore, that in democratic countries the average person shall obtain a clear view of the fundamentals of war economy, so that he is able to grasp the reasons for sweeping measures involving great individual sacrifices, and to view with critical judgment measures and forms of organisation inadequate for the objectives in view or inequitable in respect of the distribution among various groups of the unavoidable total sacrifices involved. This paper is an attempt to contribute in a small way to the understanding of the economic problems of war, and may serve as an introduction to other papers dealing in detail with particular aspects of the war economy.

Changes in Production in Wartime

The objective of a war economy, stated in terms of a first approximation, is to produce the maximum quantity of that collection of goods and services which will contribute most to the successful conduct of the war. Such a collection of goods and services differs greatly from the collection produced in time of peace. It contains more capital goods used directly as implements of warfare or indirectly for the production of implements of warfare, and fewer capital goods usable only for the production of commodities and services that enter into civilian consumption. It contains more of the consumers' goods required by the fighting forces and fewer of the consumers' goods required in civilian life. It contains more of the capital goods required to repair losses and depreciation of war equipment and fewer of the capital goods required to offset depreciation and obsolescence of capital goods used to produce the commodities and services consumed in peace-time.

Thus war necessitates rapid and extensive changes in the proportions in which various commodities are produced. These changes require the swift transfer of productive factors from the production of goods in response to the effective demand of consumers in peace-time to the production of goods in response to Government demand in wartime and designed to assist the armed forces to achieve victory on the battlefield.

The collection of commodities that appears likely at the outset to contribute most to success in war depends in part on the estimated duration and nature of the war. This will be determined by the technical conditions of warfare at the time

and by the relative positions from which the combatants start. The actual duration of the war will be determined largely by the plans, and the execution of the plans, formed by the combatants on the basis of their estimates of the probable duration of the war. In other words, the time the war will last will depend partly on how long those in charge of operations think it will last. This does not mean that the actual duration will necessarily be close to the estimated duration. The estimates made by the opposing sides often do not agree; they are least likely to agree when at the outset one side is far more prepared than the other. Thus, in 1939 the Nazis anticipated a short and the British and French a long war. Indeed the relation between the estimated and the actual duration of a war is often extremely complicated. There appeared to be grave danger in July 1940 that the plans made by the British on the assumption that the war would be a long one might actually lead to its being a short one. At the moment of writing this possibility seems to be passing and with its passing the probability that the present war will be a long one is restored. This is only one of many illustrations of the fact that even with the best data obtainable there will be a large degree of uncertainty in any estimate that may be made, and therefore in the exact collection of commodities and services which the Government should plan to produce.

The objective of the war economy, as defined above, should be interpreted to take account of psychological as well as economic factors. Thus, an extremely drastic curtailment of consumption goods which appeared likely on purely economic grounds to aid in bringing success might damage morale to such an extent that it would bring failure. Nor can welfare be neglected during war. No civilised community could accept a war economy in which the material needs of children were deliberately disregarded on the ground that children far below military age were consumers and not producers and could not aid the nation in the war.

The extent of the difference between the collection of goods and services produced in the modern world in time of peace and that produced in time of war depends on the extent of the preparations for war in the pre-war period, on the technique of warfare, and on the energy and competence of those directing the war. At the outbreak of war nations do not pass sharply from a complete peace economy to a complete war economy.

Rather they pass from forms of economic organisation in which considerable resources—varying from country to country—are already applied to produce war materials, to forms of economic organisation in which the production of war materials plays an ever larger and ultimately, in major wars, a dominating part. The extent of preparations for war in time of nominal peace has differed greatly from country to country. Some Governments, such as Japan since 1931 and Nazi Germany since 1933, carried their preparations for war to an advanced stage while the democratic countries, concerned primarily with the arts of peace, lagged dangerously behind. Thus after war was declared, the magnitude of the economic changes which the democracies had to make was far greater than that which was required or even possible in Nazi Germany. When great differences exist at the outset in the extent of the preparations in the opposing camps it may be expected that the well-prepared aggressor will force the pace in the earlier stages of the war, while his superiority is greatest, and before the defending country has had time to transfer a large proportion of its economic resources to war production. In a long war the aggressor country has less scope than the victim of aggression for the expansion of its production of war materials. Moreover the greater degree of preparation for war in the aggressor country has usually been attained by greater sacrifice of consumption goods, and these sacrifices necessarily impair physical efficiency and morale in the long run.[1]

Changing Techniques of Warfare

Methods of warfare have changed markedly with changes in technique. The relevant changes in technique are of two kinds. First, inventions and improvements in manufacture, in mining, and in transport, change the economic conditions in which war is carried on. Second, inventions and improvements in the equipment of the fighting forces and the appliances for offensive and defensive action on the battlefield change the

[1] Hypothetically, the aggressor might attain greater preparedness solely by utilising previously unemployed factors of production to increase war output, without encroaching on the production of peace-time goods, while in the same period a similar quantity of factors of production remained idle in the country destined to be attacked. Indeed an approximation to these conditions has temporarily prevailed in certain years of the last decade. The Governments of Germany and Japan drew heavily on unemployed factors in the early years of their preparations for conquest. However it was only a matter of time before military demands encroached on the resources used in the production of peace-time goods and the real income of the working class declined.

character of the actual combat. The two types of technical change are of course interrelated. In some respects they overlap, as in the use of the motor truck. In other respects they consist largely in the application to the appliances used in combat of principles developed in peace-time industry. But the attempts at application frequently meet with difficulties, and special research is often needed to solve problems not met in peace-time industry.

The proportion of capital equipment to man-power required in the equipment of the fighting forces has increased greatly since 1914. This fact is illustrated by the statement frequently made in the last year that the number of persons behind the battle lines, especially in industry, needed for each person in the battle lines has risen markedly since the war of 1914-18. This rise is the result of an increase in the amount of capital equipment used by the average soldier, sailor, and airman, in the process of combat. In the present war various types of tanks, armoured cars, and mobile artillery, beside which the equipment used in 1918 appears primitive, have been used in great numbers. Aeroplanes immensely superior to those used in the war of 1914-18 are playing a leading part and will probably in the end play a decisive part in the present war. From the imperfect data available it appears that between the two great wars the cost of naval, military and air units increased much faster than the national incomes of all the countries concerned. This was a symptom of the increasing proportion of capital equipment to man-power in up-to-date methods of warfare. To-day armoured divisions working in co-operation with air squadrons can throw into confusion opposing armies equal in man-power but much inferior in aeroplanes and armoured cars, just as Roman legionaries could scatter masses of brave but ill-equipped tribesmen. From ancient times armies well equipped with capital instruments have held an enormous advantage over those less well equipped.

Changes in the technical conditions of warfare have to some extent changed the effects of war on the position of the workers, both during the period of preparation for war and during war itself. During periods of armed peace the most recent methods of warfare necessitate the diversion of a larger proportion of the national capital, especially in manufacture and construction, to armaments than was formerly required. Each man engaged in the fighting forces on land, on sea, and in the air,

has to be provided with more elaborate and more expensive machines and equipment than before. It follows therefore that up-to-date preparations for war involve a greater reduction in the real income and the standard of living of the community below the levels which could be attained in the absence of armaments than that which was necessary in the past under cruder methods of warfare. This has contributed to the advantages of the aggressors in the present war. In Germany, Italy, and Japan, reductions in standards of living were imposed by rulers seeking territorial expansion. The masses in the democratic countries, however, were reluctant to sacrifice hard-won gains in living standards to prepare for war on an adequate scale, and in some cases politicians feared that outspoken advocacy of drastic increases in armaments, on a scale which would affect living standards, would alienate the electorate. Consequently when war broke out the amount of equipment and machinery per soldier was much higher in Nazi Germany than in the democratic countries.

The rise of "total war", as well as the increasing complexity of modern economic organisation, threatens—and in some cases has destroyed—democracies too slow to organise their economic activities on a war basis. The concept of "total war" is not wholly an economic concept. Of course economic organisation had its place in the schemes of the earlier advocates of total war. But they laid greatest stress on conducting diplomacy and waging war unhampered by ethical restraints and humanitarian sentiment, violating treaties whenever the power of the State could be increased by so doing, and adopting ruthless tactics towards enemy civilian populations as well as armies. However, the increasing complexity of the economic order, arising out of an increase in specialisation in productive and distributive processes and in the number of commodities required for war purposes, has made the preparations for and the conduct of war increasingly dependent on thorough economic organisation. Strategy and diplomacy aimed at aggrandisement by the methods of total war are dependent on the strength of the military machine, and this in turn is dependent on elaborate economic organisation. Nazi Germany appears to be the first country to have adopted on a thoroughgoing scale, well in advance of actual war, the methods of total war in the economic sphere.

The Problem of "Bottlenecks"

When war breaks out or appears imminent, an inadequately prepared country is faced with an extremely complicated problem of reorganisation of productive capacities. Time presses; labour and other productive resources have to be diverted from one kind of production to another, and new producers' goods have to be turned out as rapidly as possible. Delay involves risk of total collapse, and the ablest and most forceful organisers are needed in key positions. The qualities which bring what is considered to be success in private industry and in Government departments in peace-time do not always yield fruitful results in wartime. Modern war operations require enormous quantities of many thousands of commodities which have to be produced in the right proportions. An insufficiency of one of these commodities may render a large part of the production of many other commodities ineffective.[1] Given sufficient supplies of raw materials, the production of machine tools in sufficient quantities and the training of an adequate supply of various kinds of skilled labour are essential basic requirements of the war economy. Great Britain and the United States have been and still are handicapped by shortage of machine tools — caused by shortages of certain kinds of technicians and skilled workers.

Both before and after the outbreak of war, shortages of labour possessing particular types of skill essential to the expansion of some types of production occurred in all the democratic countries. The demands for these types of skill could not readily be supplied from the ranks of the registered unemployed, who included workers passing from one employment to another, relatively unskilled workers, workers possessing redundant skills, and inefficient workers. The demand for labour is composed of a series of complementary demands for different types of labour. A shortage in certain types of skill will hold up advance in productive activity and prevent the absorption of workers in related processes. This will at times hinder full recovery from depression during peace and the transition from a peace to a war economy.

[1] Of all "bottlenecks" the most serious for the democracies seem to be organisers, technicians, and skilled and semi-skilled labour, while the most serious for the Nazis and Fascists are raw materials. Fortunately in the present war the democracies hold the advantage in the long run, since the bottlenecks which hamper them are more easily removable than those which hamper the Nazis and Fascists, provided Nazi Germany can be prevented from expanding far enough to the East to obtain additional

Methods of warfare change with changing technique, and the demand for technicians and skilled workers is greater in this than it has been in any previous war. The world depression affected the supply of skilled labour by reducing the numbers entering various trades. But even without this, special measures would be necessary to train rapidly a large supply of various kinds of semi-skilled and skilled labour to meet the needs of expanding war industries. The combinations of different types of labour change with changing technique and differ in the production of different types of product. The outbreak of war sharply changes the relative demands for different products and hence for different types of skill. Thus it creates redundancies of labour in some directions and scarcities in others, and a difficult problem of training young and retraining older workers arises. The existing supplies of different types of labour were trained for the production of the collection of commodities produced in peace-time, and even when these commodities include armaments they include them in much smaller quantities than those required when war breaks out. Thus the shift to a different collection of commodities necessitates a shift to different types of labour. At the same time large numbers of men are withdrawn from industry for the fighting forces, not only in belligerent countries but also in neutral countries near the belligerent countries.

Therefore, the main labour problem of a war economy is to produce the maximum quantity of that collection of commodities which is required for war purposes and for the maintenance of the health and efficiency of the population, with a smaller supply of labour than is available in peace-time. To make up in part for the reduction in the supply of labour, more persons, especially women, not gainfully occupied, are drawn into industry, agriculture, and transport services, away from positions in which they rendered unpaid services or no services. The length of the working week is increased, and fixed plant is used more continuously than in peace-time.

Working Hours and Shifts

In times of emergency there is great danger that what appear to be the simplest methods of increasing output will be adopted in uncritical fashion. Indiscriminate lengthening of hours of work may defeat the purpose for which it is adopted. Clearly the criteria which should determine the length of the working day are different in wartime from what they are in peace-

time. In peace-time, if no external menace is threatening, the criteria will include not only the effect of hours on output but also, after a certain output is reached, the relative social desirability of additional output and additional leisure. During total war, or when total war is threatening, the relation of hours to output should be the sole criterion. But this must be interpreted for the most part with reference to the long run—that is, the long run from the point of view of the war. Apart from short-run crises during the war, the aim should be to fix working hours at the point which is most favourable to continuous output over the whole war. In striving to achieve that aim, it should be understood that absenteeism, due primarily to sickness and lowered vitality, will eventually nullify short-period increases of output when working hours exceed the optimum point. Moreover, the optimum working day and working week differ considerably with differences in the type of work performed.

In any one plant many different processes are carried out, each contributing to the production of the same final product. It would be impracticable on technical grounds to arrange a different length of working day for each group of workers, and the best compromise possible is the most that can be achieved. During the war of 1914-18 the length of the working day was increased in some cases to a point at which total output was less than it would have been if hours had been reduced. These may be extreme cases, but in the period in which they worked excessively long hours both managers and workers, relying merely on impressions, were generally unaware of the facts. It would be profitable to-day, as it was in the last war, for Governments to employ a certain number of trained investigators to carry out experiments in munitions factories on the effects of various lengths of working day and working week and the distribution of work periods and rest periods during the day.[1]

These reservations are by no means intended to deprecate all increases in working hours in wartime. On the contrary,

[1] It is unfortunate that in recent months many popular writers and speakers have indulged in loose sweeping assertions with reference to the alleged effects of the shorter working week in France during the period in which Mr. Léon Blum was Premier. These assertions have been passed from person to person with scant reference to the data on which they are based and with little understanding of the great difficulties that face even the trained investigator who sets out to investigate the effects on output of changes in working hours when many other changes affecting output take place at the same time. The subject is one for scientific investigation rather than partisan politics.

when most unemployed factors have been drawn into use increased working hours become necessary in many industries in conditions of total war or preparation for total war. Such increases, however, should not be made impulsively or indiscriminately but on the basis of careful consideration of their probable effects on output and health, and the establishment of machinery to check these effects from time to time.

Above all, in mechanised industries changes in hours of work should be designed with a view to the fullest possible utilisation of fixed plant. This is particularly important when, as invariably happens in the earlier stages of development of a war economy, the scarcest factors of production are certain types of fixed plant and machinery, and full employment of other factors of production is dependent on an increase in the supply of these types of fixed plant and machinery. Obviously these scarce fixed factors should be kept running twenty-four hours a day. If the scarcity of such plant and machinery is greater than that of the operatives capable of running them, three shifts of eight hours each will give much better results than two shifts of twelve hours each.

War Production and Government Control

The principal difficulty, then, which the inadequately prepared democracies have to face is that of time. In peace-time changes in the collection of commodities produced are brought about by changes in taste, in income, and in the technique and conditions of production, leading to changes in the relative prices both of commodities and services and of productive factors. Even when these changes take place over a considerable period of time the adjustments are frequently incomplete and involve much unemployment among groups of workers in declining industries. The "price system", left to itself, is so slow and cumbersome that any community relying on it to face conditions of total war in other countries would quickly be submerged. Therefore democracies, if they are to survive, must adopt forms of economic organisation that largely run counter to the method of private enterprise prevailing over the larger part of the economic system in capitalist democracies in ordinary times. Decisions of centralised bodies appointed by Governments must take the place of decisions by numerous groups of private individuals acting on the criterion of the relative profitability of different types and amounts of production. Profit should no longer serve as a criterion, and many of the qualities

of the entrepreneur in private enterprise have little relevance to the economic needs of a community plunged into total war and fighting for its existence. Rather the qualities needed are those of planners, organisers and managers of productive activities and transport services, skilled technicians, research scientists, and inventors applying the results of scientific research.[1]

Under a system of private enterprise the entrepreneur is free, so far as the Government is concerned, to produce whatever kinds and quantities of commodities he wishes to produce, and to refrain from producing commodities which he has the means to produce. For war purposes the Government is obliged to call on private corporations and other business establishments to produce goods designed to meet the needs of war. Unless special powers are given to the Government it has to offer attractive financial inducements to business men to obtain the products necessary for building up the fighting services.[2]

When war breaks out this position becomes untenable on grounds both of equity and of efficiency. Under the menace of total war it becomes indefensible in a democracy even before

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[1] Again, with a view not to commercial profit but to serviceability in war.

The function of the entrepreneur in peace-time is to forecast effective demand in the near future for the goods which his firm is capable of producing, and on the basis of these forecasts to make decisions regarding the types and quantities of goods to be produced in anticipation of future demand.

In wartime, however, the amount of goods required for war purposes is determined, not by the effective demand of individual consumers, but by the Government in accordance with the recommendations of the fighting services. Hence the function of the entrepreneur has no place in the production of war goods and high-salaried entrepreneurs merely increase costs without bringing corresponding benefits. On the other hand there is an increase in the demand for competent organisers of the productive processes necessary to meet known Government demands as quickly as possible. If the belligerent country aims at maintaining exports in order to secure imports necessary for war purposes there may appear to be still a prominent place for the entrepreneur in export trade. This, however, is far from being confirmed in the experience of Great Britain. The objective of private enterprise is to maximise profits, not to maximise exports, and in order to increase the incentive to export the British Government has been obliged to limit production for the home market in certain industries. Thus it is advocated in the *Banker* (London, June 1940, pp. 147-52) that private enterprise is an unsuitable basis for a wartime export drive and that State-owned companies should be formed "to promote the exports which would not otherwise take place".

[2] The term "financial inducements" used here is not a circumlocution for the term "price". In England, France, and the United States, business men have sometimes been slow to produce war necessities because of fears of heavy taxation, or dislike of social reform policies, or dissatisfaction with allowances for amortisation in the calculation of taxable income.

war begins. It is neither equitable nor democratic to conscript men of military age to serve for trifling pay in dangerous operations, and at the same time leave entrepreneurs free to refrain from promptly producing commodities urgently needed by the fighting forces. It is clearly inefficient to leave individuals with the legal right to prevent the Government from directing the available productive resources of the community into the channels necessary to secure maximum production of war goods needed to protect the community from external aggression. Hence legislation is required placing powers in the hands of the Government to control the property of individuals as well as their services and to direct both into the channels required in the scheme of war organisation. There is ample scope for voluntary co-operation in the war effort by private individuals and organisations, but the menace of total war cannot be met by relying mainly on private enterprise.

It is sometimes argued that the increased Government powers and increased centralisation necessary in capitalist democracies for the organisation of productive activities in wartime are irreconcilable with democracy and destructive of democratic institutions. If this argument were valid it would necessarily follow that democracies, when faced with the menace of total war, could not defend themselves without destroying themselves. Since it is obvious that unless democracies do defend themselves in such circumstances they will be detroyed from outside, the acceptance of this view would lead to the conclusion that democracy is in any case doomed.

This theory appears to be the result of confusion of thought which identifies democracy with private enterprise in economic activities. In reality democratic forms of political organisation coexist with a variety of forms of organisation of economic activities: public enterprises, including those operated by central and those operated by local authorities; semi-public enterprises in which private ownership or operation or both play some part in a framework of extensive Government controls of various kinds; and private enterprises in which both ownership and operation are in private hands and there is only a minimum of Government control in the form of general laws supposed to protect the consumer from fraud and the shareholder from gross misrepresentation. Wide differences exist in the proportions of these different forms of enterprise in countries maintaining political democracy. It cannot seriously be claimed

that democracy is menaced when a large-scale enterprise, commanding a high degree of monopoly, as for example in the field of communication or transport or power production or supply, is taken over or is developed from the start as a public enterprise.

The term "public enterprise" is appropriate only in democratic communities. A State enterprise is only a public enterprise when the public has control over the Government through democratic forms of political organisation. State enterprise is only undemocratic when the State is itself in the hands of a despot or an aristocracy or an oligarchy. In the last resort the vital question is who the members of the Government are and by whom and through what methods they are selected and controlled. It is this rather than the proportions of State and private enterprise, of centralised and decentralised direction of economic activities, that counts. This is not to say that the structure of the economic system does not affect the composition and character of the Government: on the contrary there are important, though intricate, relations between them, which there is no space here to follow up. What is important here is that wide extension of Government ownership, control, and operation, in wartime will not in itself menace democracy when the Government is formed through democratic processes. It is indeed necessary in wartime that the Government should be widely representative, including in its membership above all the leaders of the labour movement, and that it should collaborate with the freely chosen representatives of trade unions and employer's organisations.

War and Changes in Consumption

The collection of commodities which will contribute most to success in war includes much greater quantities of consumable war goods and of fixed capital used for war purposes than are required in peace-time. Simultaneously, the peace-time supply of labour is reduced by mobilisation. Hence the question arises how far the production of durable and non-durable consumers' goods can be maintained without prejudice to the chances of success in war.

However, consumption goods similar to those consumed by the civilian population are needed for the mobilised forces in quantities specified in service regulations. These include, not ideal diet and clothing, but better diet and clothing than, unfortunately, a considerable part of the workers are able to purchase

in peace-time under existing conditions. Though there are differences between the various armies, it seems quite likely that, except during intense fighting, the aggregate food consumption of the fighting forces in some armies is greater than the aggregate food consumption of the same group of men in peace-time. There may, however, be some economies arising out of large-scale distribution and preparation of food. The quantity of clothing consumed by mobilised men may well be greater than that which is consumed by the same group in peace-time, but there are obvious economies arising out of large-scale production of uniform types of clothing and out of the methods of distributing it.

The rank and file of the fighting forces receive little pay. The places and conditions in which they live restrict their consumption regardless of purchasing power, and their low purchasing power restricts their consumption in such leisure as they have. Their dependants receive allowances from Government funds, but for a large number of them these are far below the amounts which they received before the war. Some but probably only a small proportion of employers pay their mobilised workers a certain proportion of pre-war wages.

Unfortunately, it is impossible from available data to compare quantitatively the total amount of consumption goods used by the mobilised forces and their dependants with the total amount of consumption goods taken by the same group before the war. Nor is the answer to the question necessarily the same for all countries engaged in war. To the present writer it seems probable that the wartime consumption of the group concerned is for most countries somewhat less in the aggregate than its peace-time consumption, and that some additional resources are thus made available for war purposes.[1]

The remainder of the population consists in the civilian population minus the dependants of the mobilised men. Their money incomes are unlikely to remain the same during the war as they were in peace-time, and their demand for consumption goods will vary in some degree with variations in their money incomes. The size of these money incomes will depend on the returns to productive services and to loaned capital. These

[1] This problem, however, raises some difficult questions. Unless "total consumption" is measured in monetary terms no quantitative basis can be found for a comparison of two large and diverse collections of commodities. The monetary measure is difficult to apply, not only because of price changes but also because the collection of things consumed by mobilised men is for the most part received by them in kind.

returns depend in part on and can largely be controlled by the economic and financial policies adopted by Governments. Here, then, is the crucial point in war finance.

However, the problem is not wholly one of rival demands for productive resources already in use. The increased resources applied first to preparations for war and then, in some countries, to the conduct of war were not all diverted from the production of peace-time goods. An outstanding defect of modern economic organisation has been its inability in peace-time to maintain the factors of production in full employment. Periodically, from the early growth of modern industry, idle workers and equipment have been found side by side with unsatisfied needs. In 1929 the deepest and most prolonged depression of this century began. The widespread distress resulting from unemployment produced political changes in Japan and Germany which opened the way for rapid expansion of armaments intended for use as a means of territorial expansion. This expansion of armaments was greatly facilitated by the existence during the depression of a large reserve of unemployed labour which could be drawn into armaments and related industries without competing intensely with the labour supply of other industries. Of course not all the countries which subsequently became belligerents adopted a war economy in the full sense. But after 1935 other countries moved towards it at an accelerated pace, and the recovery that took place in those years was in part the result of increased preparations for war.

The existence of large quantities of unused productive resources when the militarists seized power in Japan and the Nazis in Germany explains why for some years the workers' standard of living was depressed less than was expected in many circles by preparations for war. It also partially explains why many "orthodox" financiers and economists greatly exaggerated the economic difficulties of Japan and Germany and thus, besides misleading the public, strengthened those who supported appeasement policies which it was hoped would gain time until ultimately the aggressive policies of Japan and Germany would collapse through economic difficulties.

The employment of hitherto unused factors of production for a time enabled armaments to be increased wtihout greatly changing the level of consumption, though of course in all areas the increase of armaments prevented real wages from rising as they would have risen in a period of advances in technique if

the resources devoted to increased war preparations had been used instead to increase the production of consumption goods.[1] But, as was shown in the preceding section, the idle and incompletely used factors of production did not include adequate supplies of all the factors needed for expanded peace-time production or for preparations for war or the waging of war.

Therefore in the earlier stages of development of the war economy, even when substantial quantities of productive resources are unused or incompletely used, further increase in war production may be dependent on increases in certain types of technicians or of skilled labour or machinery or other productive materials. When measured in numbers of technicians or skilled workers or in weight or volume of equipment or materials, the shortages may appear small. But until they are remedied a large part of the total volume of unused or inadequately used factors cannot be employed in war production.

In these conditions it is unwise to urge and take measures to secure indiscriminate curtailment of consumption by the civilian population. Such restriction would have the effect of displacing many workers from their employment before the war industries were in a position to employ them in the production of war goods. Unless exceptionally effective social security measures exist in the country concerned, it will also reduce consumption in certain directions not desired, even when the war effort is at its height—that is, in respect of workers in low income categories unable when out of work to maintain maximum physical and mental efficiency. It will reduce the volume of consumption goods without adding to the volume of war production. However, even in the early stages of development of the war economy, and when considerable unemployment exists, it is desirable to restrict the production and therefore the consumption of certain commodities in the manufacture of which specialised labour or equipment is used, the supply of which cannot be increased quickly, and which is needed for the expansion of war production.

But even in conditions of full employment the restriction of consumption should not be indiscriminate. The productive factors released from the production of certain kinds of peace-time goods cannot readily be adapted to the production of war

[1] It does not follow that, in a society in which increased production is dependent on the decision of private entrepreneurs, the formerly idle resources would necessarily have been used for production of additional peace-time goods if they had not been used for war purposes.

goods. Many kinds of productive equipment cannot be adapted to war production at all. Labour of all kinds is in the main adaptable to the rendering of war services if not to the production of war goods. But this presupposes adequate organisation, and precipitate measures to cut every form of consumption may for a time create confusion rather than render practical service to war efforts.

Thus reduced civilian consumption does not in itself necessarily lead automatically to increased application of resources to wartime production. The appropriate Government policy towards civilian consumption during preparation for war or actual warfare is not necessarily identical for all countries at the same time or for the same country at all times.

But if the menace of total war is to be met successfully by the democratic countries it is essential that the earlier stages of development of the war economy shall be passed through as rapidly as possible. This necessitates rapid removal of shortages of specialised types of productive factors, and absorption of all unemployed labour and convertible capital into direct or indirect war employment. As soon as the realisation of these objectives is in sight the problem of restricting consumption becomes one of the most urgent of war problems.

It has been maintained that standards of living could and should be maintained at pre-war levels or even raised in wartime, by improved organisation and the elimination of wastes in production and distribution. Unquestionably the peace-time economy is permeated with inefficiency and waste and every effort should be made to place a given output in the hands of consumers in wartime with less expenditure of productive and distributive resources than before the war. There is much scope for the reduction of middlemen and of plant used for retailing purposes. In manufacturing and agricultural activities it is less clear that greater efficiency can be attained in wartime, for many workers of little previous experience are drawn into productive activities, transport costs are raised by military use of road, rail and sea routes and increased dangers on the seas, and less provision is made for renewal of productive equipment.

If the war develops slowly and losses of men and consumption of war materials are light, it is possible to continue for some time without substantially reducing consumption. A belligerent country may justifiably follow this course if it has an ample margin over its enemies in military, naval, air and

economic resources, if both it and its enemies rest on virtually impregnable lines, and if it can completely shut off the commerce of its enemies with the outside world. But unless all these conditions are present such a policy is hazardous and exposes the country which practises it to the danger of defeat or of a long-drawn-out indecisive struggle. To-day these conditions are not present in the democracies, either singly or collectively. Sooner or later all the democracies will have to face the necessity of restricting consumption among the civilian population. With some reservations it may be said that in wartime thrift takes its place once more among the virtues.

In no circumstances, however, should indiscriminate reduction of consumption be preached or practised in wartime. At all stages of development of the war economy the risks of indiscriminate reduction of consumption are greater on the side of consumers' welfare than they are at any stage from the standpoint of the proper utilisation of productive resources. The maintenance of the health and the physical and mental efficiency of the population should rank among the leading objectives of economic organisation in democratic countries in wartime. The standards of consumption of basic necessities needed to maintain full health and working capacity are much higher than is commonly realised, and left to themselves most people are quite content with qualitatively inadequate levels of consumption, especially of foodstuffs. Though man cannot long survive without food, shelter, and clothing, he can survive for a considerable time on quantities much below those needed to maintain him in maximum health and energy over the whole span of life. The war of 1914-18 revealed the existence of widespread physical defects in the populations of the leading western countries. Though improvements have taken place since that time, it has been demonstrated clearly that in every country in which reliable investigations have been made a considerable proportion of the population exists on inadequate diets and in defective housing conditions.

Methods of Restricting Consumption

In a democratic community the distribution of the changes in consumption should be based on two principles. There should be no reduction but an increase in the consumption of basic necessities by those who at present consume less of them than is required to maintain health and efficiency. Next, as regards

the incomes of those who earn more than is required for the maintenance of health and efficiency, the higher the income the greater should be both the absolute and the proportionate reduction of the amount left available for consumption, up to a certain level above which no further income should be left for consumption.

The first of these principles has not yet been put into practice on an adequate scale in any country at peace, at war, or preparing for war. Admittedly it may appear difficult to solve in wartime social problems unsolved in peace-time. But in fact there are opportunities in a period of war or preparation for war to take strong measures with a minimum of delay and to use methods which up to now have not been practicable in peace-time.

A variety of methods may be adopted to put these principles into practice, including measures controlling the amount of money income received by individuals and corporations, the proportions of these incomes which the recipients are left free to spend on consumers' goods, and the quantities and prices of consumers' goods available for purchase; and educational measures designed to influence consumers to distribute their demands among various goods in such a way as to maximise welfare.

The problem of restricting consumption sufficiently to enable adequate resources to be devoted to war presents many difficulties, and a variety of financial methods have been practised or proposed in attempts to solve them. A preliminary analysis of these methods in abstract terms will serve to clarify the issues involved. First, real incomes of consumers may be reduced by rises in prices brought about by inflationary methods of war finance. Second, real incomes may be reduced by comprehensive rationing which will leave consumers with no goods available on which to spend more than a certain portion of their incomes. Third, a part of current money incomes received may be diverted by taxes or loans from consumption. In practice, more than one of these methods is adopted at the same time in most belligerent and non-belligerent countries.

Inflationary Finance

Inflationary finance has usually been resorted to by Governments in both civil and international wars. It may take the

form of the printing of additional currency notes or of the creation of net additions to bank credits on Government account —the results are identical. Additional purchasing power is put out without any restriction of purchasing power already in the hands of consumers and available for consumption. The money is paid out for war materials to be supplied by producers who use it in part to pay wages and in part to pay for raw materials, and appropriate part of it as profits. The raw-material producers dispose of their receipts similarly, and eventually the newly created funds are all paid out to factors of production, by whom they are used in large part to increase the demand for consumers' goods. As the Government has used its funds to draw labour, materials, and machines, into the production of war goods, the quantities of consumers' goods not used for war purposes cannot be increased correspondingly to the increase in monetary demand.[1] The result is that a greater amount of money is offered for the same or a smaller amount of goods. Prices rise.

This can be explained in another way. In wartime the Government draws labour, entrepreneurs and managers, materials, and productive equipment, away from the production of goods for consumption by civilians and by members of the fighting forces on leave to the production of goods used by the fighting forces for war purposes or for their maintenance during war activities. This leaves fewer productive factors available to produce goods for civilian consumption. Apart from payments made for pensions and relief purposes, money incomes reach the consumer as a result of productive activities, in the forms of wages, salaries, interest payments, and profits. In a peace economy, when there are suitable unemployed resources, additional productive activity financed by net additions to credit involves both new goods, either consumers' goods or producers' goods that yield consumers' goods, and new money, and these offset one another so that no inflation results. When, however, the production of war goods is financed by net additions to credit, and carried out by the use of resources diverted from the production of goods for civilian consumption, the new money which is placed in the hands of consumers is not offset by new goods which can be the object of civilian consumption

[1] This assumes that there are no unemployed factors of production which can be drawn into the production of the kinds of consumers' goods for which the demand in monetary terms increases.

or which can be used to produce goods consumable by the civilian population. Hence, the new money will compete with the existing money for the limited supplies of consumers' goods available. Prices will rise.

The rise in prices will be followed by demands for increased wages, salaries, and other money incomes. If these increases are given the Government will require greater credits than before to obtain a given amount of new war goods. Net additions to credit and therefore ultimately to consumers' incomes will again increase—and by a greater amount than before—the quantity of money that will be used to buy the available quantity of consumers' goods, which cannot be increased unless the resources devoted to war are decreased or hitherto unused resources are discovered and are not turned to war uses. Prices will again rise, and if money incomes are again increased the same sequence of events will take place.

Since an interval elapses between the rise in prices and the rise in wages and salaries, the increases in costs will lag behind the increases in prices. Thus business men will produce goods at one level of costs and prices and will sell them at a higher level of prices, with the result that their profits will be exceptionally large and will include a windfall element that results from no skill or merit on their part. Inflationary periods are usually, especially in the early stages, periods of high profits, until an advanced stage of inflation is reached. This of course is true in peace-time, but in general, and with some striking exceptions such as occurred in some countries as the aftermath of the war of 1914-18, inflations have been much more rapid and have gone much further in times of internal or international armed conflict than at other times. It is therefore not a coincidence that the word "profiteering" is usually employed in a war context.

The attractions of inflationary finance to a Government waging war are that it does not necessitate large immediate increases in taxation and that it places financial resources promptly at the disposal of the Government. It has also been maintained that opportunities for some degree of profiteering supply a necessary incentive to business men to maximise production. But this seems open to serious question. Inflation brings to entrepreneurs extra profits which do not necessarily correspond to extra skill or enterprise on their part; thus waste and inefficiency are encouraged. Moreover, the doctrine that

business men must be given greater real incomes in the national emergency when the real incomes of the workers are reduced is not likely to commend itself to the community as a whole.[1]

Thus, on balance, the case against inflationary finance is overwhelming. Of all methods of war finance it bears most hardly on lower income groups and favours the profiteer more than any other group in the community. Unfortunately, however, inflation does represent a line of least resistance and removes the immediate necessity of explaining the hard realities of wartime economic necessities to the whole community. If all other methods are rejected or are accepted only on an inadequate scale, inflation must be practised.

Rationing

Rationing is usually adopted in wartime primarily because of shortages of raw materials essential to war production and shortages of certain consumers' goods which are, or are regarded by the public as being, necessities of life. The raw materials must be rationed to prevent an undue proportion of the limited supply from being used for the production of consumers' goods. Recently scarce raw materials have also been rationed in order to divert them from the production of consumers' goods for domestic consumption to the production of consumers' goods for exports that can be used to finance imports of war materials and necessities of life. Rationing of consumers' goods subject to war scarcity is essential in communities in which income is unequally distributed, to ensure necessities to the lower income groups and to prevent hoarding and remove the need for queues.

Rationing of raw materials is also an effective weapon in the hands of the central Government, for the purpose of controlling private business in wartime with a view to maximising the production of war goods and minimising the production of consumers' goods which can be foregone with least injury to the public. This form of control is speedier and more direct

[1] It is sometimes argued that a part of industry had been working at a loss before the war and therefore should not be deprived of the opportunity to recover losses in the recent past and pay higher profits. This argument overlooks the fact that many workers drawn into the army at very slight pay had sustained unemployment and wage cuts in the recent past in peace-time. In addition, extra profits, if paid out, are likely to be used in part to increase unnecessary consumption prejudicial to the war effort and if invested in war loan tend to affect adversely the distribution of income after the war.

than one based on fiscal and financial measures alone, and Governments of democracies facing the menace of total war should therefore be given full control both of imports and of domestic production of raw materials. In particular, there seem to be opportunities for using these powers to divert productive factors from the production of durable and semi-durable consumers' goods consumed widely in peace-time to the production of a variety of war goods. In this way total consumption may be restricted with less injury to the welfare of consumers than would result from curtailment of more perishable products, especially foodstuffs; for the lifetime of durable and semi-durable consumers' goods, such as automobiles, refrigerators, and radio sets, can be lengthened without important injury to the community. Much new buying of these goods in peace-time is the outcome of high-pressure salesmanship, instalment purchase, and changes in fashion initiated by producers, and however valuable this form of expansion may be as a means of recovery from depression in peace-time it becomes detrimental to economic organisation for war.

Hypothetically, comprehensive rationing of raw materials and consumers' goods might be carried to a point at which there would be little or nothing left to buy after available rations had been purchased. Thus money income left over would be more or less forced into war loan. A further stage is conceivable in which rationing would be made universal and money payments would be displaced entirely by ration coupons.

Nazi Germany has gone far in rationing but no country has yet gone so far as to adopt a system of universal rationing in which consumer's choice is completely abolished. In wartime it is inevitable that consumer's choice will be extensively restricted. But in a long war the complete abolition of consumer's choice would almost certainly affect morale adversely, and the administrative technique and planning necessary to ensure smooth working of a system of universal rationing would be extraordinarily complicated. Fortunately other measures can be adopted which will leave considerable room for consumer's choice and at the same time effect the necessary restriction of consumption. Financial and fiscal measures for restricting the amount of money income left over for expenditure on consumption goods can be greatly aided but by no means entirely displaced by rationing.

Taxes and Loans

The third method of war finance consists in the return to the State of a part of the money incomes received by the community. This is the method most familiar in peace-time, and no innovation is involved in its extension in wartime. It may take the form of taxes or of loans, and the loans may be voluntary or compulsory, though the line between the two is blurred in wartime.

On the whole taxation appears under certain conditions to be the most equitable method of war finance, since the restriction of consumption can be graduated with reference to the varying positions of different individuals and groups. Yet in past wars it has been used to a surprisingly limited extent, while loans and inflation have been resorted to on a large scale. The respective merits of loans and taxation therefore require careful examination. Loans are here understood as sums lent by individuals which they might otherwise have used to purchase goods or services, and by corporations out of undistributed profits. Bank credits to Governments are not included, since they are merely a form of inflation. The essence of genuine loans is, first, that like taxes they involve a transference of purchasing power, so that the lender refrains from consuming an amount equivalent to what is consumed by the borrower or those to whom the borrower pays the proceeds of the loan in return for services; second, that, unlike taxes, loans give rise to obligations to make equivalent return payments at a future date plus periodic payments which represent the price of the loans.[1]

The respective merits of loans and taxes must be considered from three points of view: first from the point of view of the restriction of total consumption; second from the point of view of the distribution of the restriction of consumption in wartime and the ultimate effects on the distribution of income; and third from the point of view of incentive to work.

As regards the effectiveness of taxes and loans to restrict total consumption and thus raise the maximum resources for war, voluntary loans are obviously limited by the amount which the public is willing to forgo in present consumption in war-

[1] From these definitions it follows that if a lender borrows from the bank to take up Government war loan, and the bank lends him the necessary sum by net additions to credit, no genuine loan has taken place. Such lending is merely a form of inflation.

time, and this will depend in part on the terms of Government loans and in part on non-pecuniary incentives and public pressure to invest in them. It is not necessary to describe in detail the measures which are taken to induce the public to invest. In part they are pecuniary; different terms of repayment and distribution of interest rates over time being used to attract different income groups and types of investors. In part they rely on appeals to the justice of the cause for which the war is being fought and the duty and necessity of supporting that cause. In part other avenues to investment and to expenditure on consumption are blocked, partly because of circumstances unconnected with the raising of war loan, but in some countries because of more or less deliberate blocking of other outlets for the use of funds.

Large sums have been raised in Government loans both for preparations for war and for the conduct of war. Every country at war has resorted to such loans, but no country has been able to finance the war entirely by them. There is no reason to suppose that voluntary lending will by itself be an adequate means of restricting civilian consumption, even when lenders are subjected to pressure which blurs the line between voluntary and compulsory lending.

Compulsory lending and taxation offer greater possibilities. The former resembles the latter in certain respects, and it is probable that consumption could be restricted by it nearly as much as by taxation; for, though a return in the form of interest payments would have to be made periodically to lenders, this might be counterbalanced in part by greater willingness to submit to restriction of consumption during the war when there is a prospect of an equivalent increase after the war than when purchasing power is given up unconditionally. Hence, from the standpoint of their efficiency in restricting total consumption, taxation and compulsory lending stand close together with voluntary lending far behind. However, since all these measures or any two of them may be used in combination, a choice has to be made between them based in part on other criteria than that of the extent to which each would restrict total consumption.

It is necessary, then, to examine the effects of taxes and loans respectively on the distribution of the restriction of consumption among different income groups, on the incentive to work during wartime, and on the distribution of income after

the war. The distribution of the restriction of consumption has to be examined from the standpoints of equity and of the efficient conduct of the war. Voluntary loans have the advantage over compulsory loans and taxation of facilitating adjustment between persons of similar incomes but different financial responsibilities and different future prospects. But they have the grave disadvantage of allowing less conscientious persons to continue a higher level of consumption than more conscientious persons: this is both inequitable and prejudicial to the conduct of the war.

Voluntary lending tends to produce unfavourable results on the distribution of income after the war, since high income groups are in a better position to save than low income groups and the well-to-do thus acquire a large proportion of the claims to future interest payments and ultimate repayment of principal, all of which must be met from taxation. If extra taxes were imposed, in order to pay off the principal as quickly as possible after the war, on those income groups which held the greater part of the war loan, these unfavourable effects would of course be minimised. But an assurance to this effect would hardly stimulate high income groups to invest in war loans, and the whole proceeding would be cumbersome in comparison with straightforward taxation. Moreover, even though the interest payments on and the repayment of war loan are for the most part mere transfers within a country and thus do not directly affect national income and the country's capacity to provide social services, yet in practice the existence of a heavy first charge in the budget for internal debt provides a plausible excuse for failure to expand and at times for actual contraction of social services.

Compulsory lending applied to all income groups on a progressively graduated scale would produce similarly unfavourable effects on post-war distribution of income, even though, unlike voluntary lending, it could be used to spread the restriction of consumption in wartime equitably and efficiently. However, compulsory lending combined with taxation could be arranged in such a way as not merely to avoid increasing but actually to reduce post-war inequality of income. This of course would only follow if certain kinds of taxation were adopted. The question will be discussed below after taxation has been considered on its own merits.

Taxation and Social Justice

Taxation as a method of restricting consumption has the striking advantage of not increasing the national debt. Different forms of taxation, however, affect in different ways the distribution of the restriction of consumption, the distribution of income during and after the war, and probably the incentive and ability to work. Hence no general statement can be made regarding the desirability of financing war by taxation; everything depends on the kinds of taxes adopted.

The application of taxation to war finance should be based on two principles. First, incomes below the minimum amount necessary to purchase a specified standard of consumption goods should be exempted. Second, above this minimum the higher the income of the individual the more should his previous consumption of goods and services be restricted. Difficulties arise regarding the question how much more consumption should be restricted the higher the income. On grounds of equity the entire amount of very large incomes above a certain point should be taken. This will not restrict consumption by a corresponding amount, since part of the excess would no doubt have been placed in war loan. But, as we have seen, loans made by higher income groups affect distribution adversely in the post-war period, and the more it is possible to take in taxation from these groups the greater the degree of equity in war finance.

The income tax appears to be better adapted than any other single method to the application of these principles. It has indeed the disadvantage in wartime that it is collected only at considerable intervals of time and this year's tax payment is related to last year's income. This disadvantage is greatest in periods of rapidly rising prices and money incomes. If inflation is avoided the effectiveness of the income tax is increased The income tax can be adapted more readily to the requirements of equity than any other single tax or any other single method of restricting consumption. If applied on a sufficiently progressive scale it will reduce inequality of income after the war. It is more compatible with the maintenance of effort and enterprise than any other tax with the possible exception of the inheritance tax. The majority of economists have held that high income taxes do not reduce the efforts of business men, since the tax is only imposed on income actually received. However, this view has been criticised on the ground that high taxa-

tion diminishes net yields to invested funds and thus reduces the advantages of investing over holding cash idle. This criticism may be significant in periods of depression but is unlikely to have any force in periods of high business activity. During wartime, when unemployment is rapidly reduced, little or no weight should be given to it unless tax rates are overwhelmingly high.[1]

Why then should not the entire restriction of consumption needed in wartime be effected by raising income tax rates? In general, as the following representative statements show, the answer to this question has been comprised in an answer to the broader question why war should not be financed entirely by taxation.

> It is, in fact, humanly impossible to finance a totalitarian war entirely out of taxation. . . .[2]
>
> . . . . . in a war on a great scale, it is generally agreed that a policy of finance through taxation alone, however excellent it might be in theory, is in practice out of the question, for the simple reason that people would not stand it.[3]
>
> The instrument of taxation is therefore simple, equitable and safe.
>
> But there is, as everyone knows, one weighty argument against it. It would be an extremely unpopular method of financing the war.
>
> . . . . . the fact remains that no serious student of the public mind supposes that we should be willing to see the stupendous increase in the rate of taxation that would be necessary if the war were to be financed wholly from this source; and no one can therefore suppose that we shall attempt to do it.[4]

The implications of these statements are clear: they mean either that the public prefers to be fooled by inflation or that it is willing to lend what it is unwilling to give for the conduct of the war. However, the refusal to accept adequate taxation of incomes affects the distribution of the restriction of consumption among different income groups. The only advantage of voluntary loans is that they enable people of similar incomes but whose positions differ in other respects to adjust their relative sacrifices more equitably. However, even so, it does

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[1] In any case inflationary tendencies are so strong in wartime that an increase in the cash holdings of the investing classes would not be likely to produce harmful effects and could if necessary be offset by credit creation on the part of the Government.

[2] Geoffrey CROWTHER: *Paying for the War* (Oxford University Press, 1940), p. 26.

[3] A. C. PIGOU: *The Political Economy of War,* Revised Edition (London, 1940), p. 73.

[4] E. F. M. DURBIN: *How to Pay for the War* (London, 1939), pp. 39-40.

not follow that left to themselves they will necessarily do so, and other ways, particularly certain kinds of tax exemption and family benefits, can be used in a system of taxation to alleviate hardships to individuals who are unfavourably situated. The disadvantages and inequities of inflation have already been described. Other forms of taxation, apart from death duties, which obviously cannot be raised quickly enough to make significant contributions in wartime, are in the main regressive, restricting consumption relatively more among lower than higher income groups.

Of these, customs duties cannot be expected to yield even as much as in peace-time. Excise taxes, such as duties on alcoholic drinks, tobacco, sugar, and tea, can probably be increased considerably without diminishing total revenue. But the case for this type of tax is much weaker than it is commonly supposed to be. Customs and excise duties are in the main essentially regressive and no-one, however low his income, can escape them unless he abstains from consuming the products on which they are levied. For some products, such as sugar, this is almost impossible, and if it were possible it would be undesirable. In the case of other products, such as alcohol, tobacco, and tea, no physiological harm and possibly some physiological gain would result from reduction in their consumption. But on grounds of equity it cannot be claimed legitimately that customs and excise duties are the best means of restricting the consumption of things which produce harmful physical effects if consumed in excessive quantities. Their effect is to make it much more difficult for those in low income groups than for those in high income groups to obtain the commodities. This may, indeed, protect the health of the workers more than it protects the health of the higher income groups! But it has the great disadvantage that those persons in the lower income groups whose demand for the commodities is inelastic reduce their consumption of basic necessities to a dangerous point, in order to set aside enough money to buy the commodities in question. This is an overwhelmingly strong argument against customs and excise taxes on commodities excessive consumption of which is prejudicial to welfare. Rationing is obviously the best method of reducing the consumption of products which are harmful if consumed in large quantities.

Sales taxes are even more undesirable than excise taxes. A curious naiveté is shown in the attitude towards them in

countries without experience of them. Those who, like the present writer, have had experience of them in American States are unlikely to recommend their introduction as a method of war finance. Administrative difficulties are indeed less important than is apparently imagined in countries which have not yet adopted them, provided they are levied on retail sales. But if large sums are to be raised by them they must cover some at least of the necessities of life, and this makes them highly regressive. Once imposed they are extremely difficult to remove, for they offer an easy means of raising large sums—at the expense of the worker's standard of life. Over a wide area in North America the sales tax has inflicted and continues to inflict substantial injury on the workers. It has provided a means by which high income groups have succeeded in escaping their proper share of taxation. Not even the advantages which it has in promptness of collection should commend it to belligerent countries desirous of maintaining ideals of social justice.

Thus it is clear that the income tax should be the mainspring of war finance and should promptly be increased to hitherto unknown and unthought-of heights during war. It should be collected at more frequent intervals in war than in peace-time, and should be supplemented by measures to prevent the sale of capital assets for the purpose of maintaining or increasing consumption.

However, even when the principle is accepted that the higher the income of the individual the greater should be the proportionate reduction in his consumption of goods and services, the problem remains of deciding the exact scale to be adopted. Individuals in higher income groups have higher overhead charges to meet, and they cannot suddenly reduce all these charges. But on grounds of equity it seems clear that in wartime the whole of incomes above a certain level which allows a margin for these higher overhead charges should be taken in taxation. In peace-time the argument against this is that enterprise would be affected adversely, and in consequence production would be reduced. In a community in which the Government has to rely upon private business to produce the greater part of war materials, it is essential that entrepreneurs shall put forward their utmost efforts. Modern war requires an increasingly large amount of equipment per unit of manpower, and it is essential that, for the defence of democracy, the necessary equipment shall be made available in the largest possible quantities.

The argument that entrepreneurs will relax their efforts in war emergencies unless they are permitted to make large incomes in excess of the amount they pay in taxes implies that, as a class, business men are less willing than other sections of the community to make sacrifices to save the community in the hour of need. The same conclusion must be drawn in a community in which the methods of war finance include the stabilisation or reduction of money wage rates and the imposition of an excess profits tax of less than one hundred per cent. These methods prevent workers from obtaining any increase in money incomes, and at the same time allow business men to make and in part to keep profits in wartime over and above what they make in peace-time. There is no escape from the conclusion that such conditions are incompatible with social justice, that financial policy should aim at preventing as far as possible price rises that give opportunities for excess profits, and that excess profits should be subject to a 100 per cent. tax. A combination of these methods is the only sound and just way of dealing with war conditions; for it is hardly conceivable that any form of monetary policy alone could remove opportunities in every industry for making excess profits.

The distribution of the war burden should not be decided without reference to the tendencies of pre-war taxation. There is considerable evidence for the view that the low income groups were bearing an undue proportion of the tax burden in some countries before the war. For example, calculations made by the Colwyn Committee and by Sandral and Lindahl show that in Great Britain the proportion of incomes taken in taxes actually decreased from £150 to £500 a year, and, though it rose again after £500, it was—on most of the estimates made—actually less in incomes of £1,000 than in incomes of £100.[1]

These inequities should be taken into account in framing war taxation. There is justification for the arguments of representatives of labour that low wage groups are already overburdened with taxation. But in an extreme emergency, in which the existence of democracy and freedom are at stake, all resources not needed to maintain health and efficiency must ulti-

[1] This applies to estimates for 1925-26, 1930-31, and 1934-35. On the subject in general see D. M. SANDRAL, in *Journal of the Royal Statistical Society*, 1931, pp. 83-94; Report of the Committee on National Debt and Taxation (Colwyn report); and Ursula K. HICKS: *The Finance of British Government, 1920-36* (Oxford University Press, 1938), pp. 265-78.

mately be transferred from peace to war production if the war is a long one. This necessitates some restriction of consumption even of fairly low income groups. It is widely held that in Great Britain, for example, even those with incomes of less than £250 must contribute in some degree if adequate resources are to be raised to meet the Nazi and Fascist menace. Thus it is scarcely possible during wartime to compensate the low income groups for pre-war inequities in taxation.

But it is possible during wartime to make provision for redressing pre-war inequities in the post-war period. The principle of deferred pay advocated by Mr. J. M. Keynes can be adapted to this purpose. Deferred pay may be regarded as a form of compulsory lending. Certain proportions of wages, differing in different wage groups, are given in the form of certificates which can be cashed after the war. The worker in effect gives up part of his income in the form of a loan instead of a tax. It is not necessary to endorse the particular scales proposed by Mr. Keynes. But the substitution of deferred pay for the extension of the income tax into the low income groups provides a means of compensating after the war for the extra efforts made in wartime by those who in the pre-war period in certain areas were actually taxed to a greater proportionate extent than large groups of relatively well-off people. This scheme will also enable the inequality of incomes to be reduced in the immediate post-war period.

Since family units differ in size, and some workers are without dependants while others have dependants in varying numbers, there are marked differences between the consumption requirements of different families. If the money incomes of families differed in correspondence with differences in their needs, this would be unimportant. But in fact the ratio between family incomes and family needs, even in the same wage groups, differs widely. Hence under the present system the consumption of some families is cut below the level necessary for the maintenance of health and efficiency, while that of others leaves a surplus. In present circumstances the only effective remedy consists in the adoption of a system of family benefits in respect of each child in a family. These may consist in money payments or the extension of free services. The benefits would have to be nation-wide in scope, applying to all workers or all families below a given income level. If a system of money payments is adopted the revenue should be raised either by

ordinary taxation or by contributions, as under a social insurance scheme. In fact family benefits might well be included within the scope of the social security system. In part these benefits could take the form of a wide extension of free medical services to children, including both diagnostic services and treatment, through clinics maintained by local health departments with the aid of funds from the central Government[1], together with a free midday meal containing an abundance of protective foodstuffs for school children within these income groups.

War and Foreign Trade

Since no belligerent country is or could become self-sufficient either in peace or in wartime, external trade and exchange are vital to war economy. Given approximately equal domestic, economic, military and air resources on both sides, that side will ultimately prevail which is able to maintain the greater flow of imports from the outside world. The Nazi offensive seems to be based on recognition of the validity of this principle in a long war and on the hope of nullifying it by an intense and terrifying use of force in the early stages of the war. If, however, the offensive fails to crush the opposing forces or to destroy its lines of communication and supply, then no matter how spectacular its immediate results may be it is bound to end in failure.

The objectives of foreign trade and exchange policy in wartime are to obtain as large a supply as possible of commodities essential to the maintenance of the health and vigour of the population and to war operations, and to place the maximum obstacles in the way of imports into territory occupied by the enemy. The measures to be taken to carry out this general policy obviously depend partly upon the geographical, military and naval position of each country. However, they have been influenced in part in the present war by the different political and social systems in the opposing belligerent countries. Nazi Germany has attempted to maximise its imports by using political pressure against the non-belligerent States within reach of its army and air force, to compel them to conclude bilateral

[1] The real cost of these services to the community, as distinct from the Treasury, would be substantially less than the cost of such limited services as are rendered under the present system plus the losses due to permanent impairment resulting from the inadequacy of services among low

and barter arrangements on unfavourable terms of trade. The political systems of the democratic countries prevent them from applying such methods, and their imports have to be obtained through genuine trade or by the use of funds accumulated abroad, at prices determined not by threats but by economic circumstances.

Imports unnecessary for the objectives described above have to be eliminated. The term "unnecessary" however should not be interpreted too narrowly. For example, the survival of out-of-date ideas regarding nutrition sometimes causes fruits to be regarded as "luxuries", while in reality shortage of fruits and salad products, especially of citrus fruits and tomatoes, is likely to injure the health and vigour of the population in north temperate zones. In deciding what imports to restrict, Government authorities should consult expert bodies regarding the effects of cutting off supplies of the various commodities imported in peace-time.

After deciding in what directions imports should be reduced, Governments are faced with the necessity of determining the extent to which certain indispensable commodities should be imported and the extent to which they should be produced at home. It is not easy to lay down any simple principle for determining where the line shall be drawn. The variables to be taken into account include the total shipping space available, after necessary imports of goods that cannot be produced at home have been provided for, the bulkiness of the commodities, the extent of the difference between internal and external costs of producing them, the availability under war conditions of the necessary factors of production, the extent of foreign investments that can be mobilised to pay for imports, and the elasticity of demand for domestic products in foreign markets. In practice, under the stress of war conditions, only rough approximations can be made. There is no space here to analyse all the complicated cases that may arise, but it should be emphasised that a country in control of sea routes and having abundance of shipping will find it wiser to import a considerable quantity of grain rather than to attempt to cultivate submarginal land with an inadequate labour supply, or with an adequate labour supply obtained at the expense of military needs.

The imports which are indispensable for war purposes can be obtained only in return for payments ultimately in foreign

currencies or gold. The means of payment can only be acquired from the proceeds of exports, from shipping and insurance services rendered to nationals of other countries, from the export of gold or foreign exchange, or from the sale of foreign securities. The export of gold and foreign exchange and the sale of foreign securities in wartime involve the liquidation of what for belligerent countries are in practice non-renewable assets.

The variables which should determine wartime export policy include the amount of gold, foreign exchange, and foreign securities, held by the belligerent country, its facilities for obtaining foreign loans, the urgency of the military need of man-power, and the expected duration of the war. Japan has no large foreign holdings, and since it adopted an aggressive external policy has been without means of obtaining foreign credits. At the same time, it is almost entirely dependent on external supplies of oil and iron. If its exports were cut off its penetration of China would be brought to an end. Great Britain has large foreign holdings, though its realisable assets must not be exaggerated.[1] Planning for a long war, it aimed at conserving part of its non-renewable assets by maintaining a high level of exports. Skilled workers in export industries were exempted from military service. Raw materials were rationed in such a way as to favour export industries and restrict domestic consumption of certain products exported on a large scale.

The wisdom of this policy has been questioned on the ground that since Germany was more advanced in its preparations and would obviously attack on a large scale in 1940 it was essential to purchase as large a quantity of material as possible in America regardless of cost—paying for it with gold, foreign exchange, and realisable securities. On the other hand, in England itself some of the foremost critics of the Chamberlain Government supported vigorously and still support the policy of maintaining exports. Obviously, economic policy in war must be determined in part by technical questions of military, naval and air strategy. It may be argued that slowness in ordering supplies contributed to the disasters of the spring and summer of 1940. But the mistake of the Allies consisted, not in

[1] Selling of foreign securities all at once on a huge scale would obviously depreciate their value considerably.

envisaging a long war, but in failing to provide adequately against an early Blitzkrieg. For an early Blitzkrieg and a long war were not necessarily alternatives; both were probable and both were relevant to the economic strategy to be followed. The appropriate policy would seem to have been to aim at maintaining exports and at the same time rapidly placing very large orders in the United States. Critics of the policy of maintaining exports fail to take adequately into account the ban on loans in the United States to the democracies. A long war was from the start and still is probable, and Great Britain could not and cannot afford to risk allowing her ability to purchase imports to sink to a dangerously low level.[1]

The effort to maintain exports from belligerent countries encounters serious difficulties, even when command of the seas is held. It was shown above that costs of production and transport tend to rise markedly in wartime. The rise is likely to be considerably greater in the belligerent than in the non-belligerent countries — or at least in the non-belligerent countries which are not obliged to mobilise. Since the non-belligerent countries which are not mobilised are for the most part situated outside Europe and trade with them involves sea transport through dangerous waters, war in Europe tends to increase the rate of industrialisation in areas outside Europe. However, it also impoverishes oversea countries by cutting off important pre-war markets from them and by creating scarcities of raw materials. In addition, it leads to changes in the location of industry—some of which are not justified in the long run by changes in relative costs—and creates vested interests which agitate for the erection of tariff walls in the post-war period to prevent the restoration of competition based on genuine cost differences from manufacturing centres in the belligerent countries which were obliged to withdraw partially during the war. Thus, difficult post-war problems of regional readjustment, calling for statesmanship of a high order, are created. These future difficulties may be minimised by avoiding indiscriminate subsidisation and concentrating efforts to maintain exports on types of goods having the most favourable prospects in future export markets.

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[1] Looked at objectively it seems curious that many of those who join in the widespread call in the United States for "all possible aid short of war" to Great Britain should omit such an obvious and important form of assistance as credits.

Conclusion

The workers are at present engaged in a war, the outcome of which will decide the future of labour and democracy not only in our time but for generations to come. They must overthrow the Nazis and Fascists whatever the cost if they are to preserve the most important gains which they have made since the downfall of the feudal system. Consequently, efficient economic organisation for war is the main problem facing organised labour at the present time.

The menace of total war, as practised by Nazi Germany, can only be met successfully by striving to mobilise for war all the convertible resources that remain after the needs of personal health and efficiency have been met. In the early stages of development of the war economy the achievement of this objective is hindered by scarcities of certain types of plant, machinery and other equipment, and skilled and semi-skilled labour, and efforts must be concentrated on removing these scarcities as rapidly as possible by the combined efforts of Government departments, trade unions, and business men. The countries outside Europe, some of them already at war and others faced with the probability that they will soon become involved, have as yet scarcely passed out of these stages. Consequently indiscriminate reduction of consumption is not to be recommended in these circumstances, though the output of such consumption goods as employ factors already needed for war production, and of which no outside reserve exists, should be restricted at an early stage.

When this stage is passed, and an approach is made towards full employment of labour, drastic reduction in the output of consumers' goods, especially durable and semi-durable consumers' goods, other than those goods necessary for the maintenance of health and efficiency, becomes necessary. Inflation, voluntary lending, compulsory lending, taxation, and rationing, may be used to restrict consumption. Inflation is the least equitable and efficient of these methods, and large-scale voluntary lending tends to produce unfavourable effects on post-war distribution of income; hence a combination of taxation, compulsory lending, and rationing, with some provision for voluntary lending, appears to be the most equitable and efficient method of restricting consumption.

Incomes below a level just sufficient to obtain adequate supplies of biological necessities should be untouched; in fact the existing consumption of dairy products and vegetable and salad

products among low income groups should actually be increased. The Government should also undertake an educational campaign to instruct consumers in the food habits most conducive to health and efficiency. Income tax should be raised rapidly on all incomes above the level adequate for necessities, approximating one hundred per cent. in the higher incomes, after allowance has been made for the higher overhead costs of higher income groups. An excess profits tax of one hundred per cent. should be levied in addition if it proves to be a more speedy instrument of collection than an income tax; it should be applied to all industries and not merely to those engaged in the production of war materials. Raw materials should be rationed by Governments, not only with a view to proper allocation among various branches of the fighting services, but also with a view to restricting unnecessary consumption.[1]

Social justice should not be lost sight of even in war emergencies. In some countries at least the effects of the system of taxation in vogue on the eve of the war were to aggravate inequality of income. Moreover, investigations in a number of countries proved beyond doubt that a large section of the lower income groups suffered from inadequate nutrition and defective housing, and showed higher mortality and morbidity rates than the national average. Hence, on grounds of social justice, deferred pay should be substituted for increased taxation on low income groups. This, in conjunction with the drastic taxation of higher income groups advocated above, would provide for a substantial reduction in the inequality of income and a general improvement in the conditions of life of the low income groups in the post-war period.

Since families differ in size, and payment for work does not take account of differences in number of dependants, there is a danger that consumption in some families will be cut below, while that in others will exceed, the level necessary to maintain health and efficiency. In present emergency conditions the only effective remedy is to adopt a system of family benefits, in the form of money payments or the extension of free goods and services in respect of each child.

To carry out these measures, or indeed war measures that fall far short of these standards, greatly increased powers have

[1] If the fiscal and financial policies recommended here appear Draconic it should be remembered that this paper is concerned with the basic merits and demerits of the various possible measures and not with questions of political expediency.

to be given to Governments, and freedom cannot be left to private individuals to produce what and when they will. Hence, Governments should be made widely representative and should include the leaders of the labour movement chosen by the workers. Provided this condition is fulfilled there are no adequate grounds for the view that democratic institutions would be prejudiced by the grant of adequate powers to Governments to wage total war against aggressor countries. Provided that it is equipped with reasonably adequate material weapons against external aggression, democracy is a hardier plant than many of those who give it lip service would have us believe.

Aggression in Western Europe and the Far East has brought millions of workers under the domination of alien rulers. It has deprived workers in long-established democracies of liberties which they had come to take for granted as part of an inalienable social heritage. The workers in those areas are told that they are to enter into a "new order". It is indeed a new order as far as the twentieth and indeed the nineteenth centuries are concerned. In it there is no place for democratic institutions, for freedom of speech and association, for the advancement of social welfare, for, indeed, any of the ideals and objectives towards which the workers have struggled since the era of modern industrialisation began. If this "new order", already established over most of continental Western Europe, were firmly entrenched there and extended to the rest of the world, as its creators desire it to be, the gains made by the labour movement in one hundred and fifty years of struggle would everywhere be lost overnight and the workers of the world would sink back into conditions of serfdom from which it would be even more difficult for them to emerge than it was for their ancestors to strike off the chains of the feudal system.

This must not be. There will be no want of individual courage and determination not only to frustrate these attacks but to drive forward to an order in which social justice will be more widely realised than it was in the pre-war order. Let us see to it that the courage and determination of individuals are backed by such thorough economic organisation in the service of democracy that success is assured.

Who Shall Pay For the War?

An Analysis of the Keynes Plan[1]

by

E. J. Riches

International Labour Office

THERE can be no economic question of greater importance to working men at the present time than the methods by which war and defence expenditure are financed. This is not because the particular methods chosen can affect to any great extent the basic economic objective of any country which finds itself at war or in danger of attack; for this objective must always be to apply the greatest possible proportion of its productive resources to the prosecution of war or the strengthening of defence, and whatever methods of finance be chosen they must serve this end. The importance of the choice lies in the fact that it will go far to determine who actually bears, both now and in the future, the real burden of the war effort.

It is for this reason that Mr. J. M. Keynes's recent pamphlet *How to Pay for the War*[2] deserves to be studied closely by workers' leaders not only in Great Britain, to the special problems of which the pamphlet is addressed, but in all countries which find their living standards menaced by the demands and threats of war. Mr. Keynes's aim is not merely to provide a solution for a financial problem but "to snatch from the exigency of war positive social improvements". The scheme he proposes includes "universal family allowances in cash, the accumulation of working-class wealth under working-class control, a cheap ration of necessaries and a capital

[1] A revised and extended version of an article first published in the *International Labour Review*, June 1940, under the title "Deferred Pay: The Keynes Plan".

[2] London, Macmillan & Co. Ltd., 1940, pp. VII + 88, 1s. Except where otherwise indicated the quotations throughout the present article are from this book, and in each case the page reference is indicated in brackets.

levy (or tax) after the war", a combination which he believes "embodies an advance towards economic equality greater than any which we have made in recent times" (pp. iii-iv).

In the pages which follow an outline is given of Mr. Keynes's analysis and proposals; and to this is added a brief discussion of some of the main features of his plan.

Mr. Keynes's Analysis and Proposals

The Character of the Problem

National output, it is assumed, will be raised to the highest figure which resources and organisation permit. In addition there will be a certain quantity of imports. From the total must be taken the goods exported and the requirements of war. What is left is the amount that is available for civilian consumption. Alternatively the requirements of the civilian population may be fixed and only what is left over be devoted to war uses. In practice what actually happens is likely to be a compromise between the two methods. In any case there will be a certain definite amount available for civilian consumption. In the interests of the national war effort the size of this amount must be a matter for governmental decision; it cannot be allowed to be influenced to any important extent by what consumers earn and spend.

This, Mr. Keynes points out, is a great change from peace-time experience. Usually production is below capacity; so that if the amount of money people have to spend increases more will be produced and there will be more to buy When men work harder and earn more they can normally increase their consumption in not much less than the same proportion. "In peace time, that is to say, the size of the cake depends on the amount of work done. But in war time the size of the cake is fixed. If we work harder, we can fight better. But we must not consume more" (p. 4).

Since in war time the size of the cake is fixed, each individual who is able to increase his consumption by spending more does so only at the expense of other people. If all alike spend more no one benefits. For prices will rise just enough for the extra money spent to be used up by the extra cost of what there is to buy.

In actual practice some members of the community must refrain from exercising their power to increase their spending. "Unless the whole cost of the war were to be raised by taxes which is not

practically possible, part of it will be met by borrowing, which is another way of saying that a deferment of money expenditure must be made by someone. This will not be avoided by allowing prices to rise, which merely means that consumers' incomes pass into the hands of the capitalist class. A large part of this gain the latter would have to pay over in higher taxes; part they might themselves consume thus raising prices still higher to the disadvantage of other consumers; and the rest would be borrowed from them, so that they alone, instead of all alike, would be the principal owners of the increased National Debt,—of the right, that is to say, to spend money after the war" (p. 6).

"For this reason", Mr. Keynes concludes, " a demand on the part of the Trade Unions for an increase in money rates of wages to compensate for every increase in the cost of living is futile, and greatly to the disadvantage of the working class. Like the dog in the fable, they lose the substance in gaping at the shadow. It is true that the better organised sections might benefit at the expense of other consumers. But except as an effort at group selfishness, as a means of hustling someone else out of the queue, it is a mug's game to play. In their minds and hearts the leaders of the Trade Unions know this as well as anyone else. They do not want what they ask. But they dare not abate their demands until they know what alternative policy is offered. This is legitimate. No coherent plan has yet been put up to them" (pp. 6-7).

The remainder of Mr. Keynes's essay is devoted to the framing of such a plan.

The Character of the Solution

In war time, even if there were no increases in the rates of wages, the total of money earnings would be increased considerably as a result of overtime, the increased number of men engaged (both in the fighting services and in civilian employment), and the movement into paid employment of women, boys, retired persons, and others who were not previously occupied. In a war like the present, however, the amount of goods available for consumption will have to be diminished; at the most it certainly cannot be increased above what it was in peace time.

"It follows that the increased quantity of money available to be spent in the pockets of consumers will meet a quantity of goods which is not increased. Unless we establish iron regulations limiting what is to be sold and establishing maximum prices for every article of consumption, with the result that there is nothing left to

buy and the consumer goes home with the money burning his pocket, there are only two alternatives. Some means must be found for withdrawing purchasing power from the market; or prices must rise until the available goods are selling at figures which absorb the increased quantity of expenditure,—in other words the method of inflation.

"The general character of our solution must be, therefore, that it withdraws from expenditure a proportion of the increased earnings. This is the only way, apart from shortages of goods or higher prices, by which we can secure a balance between money to be spent and goods to be bought.

"Voluntary savings would serve this purpose if they were sufficient. . . . But the analysis of the national potential and of the distribution of the national income" of Great Britain which Mr. Keynes sets out in his essay "shows clearly enough how improbable it is that voluntary savings can be sufficient" (pp. 8-9).

Saving, or deferment of expenditure, must therefore be made compulsory. The first provision in Mr. Keynes's plan is designed accordingly "to determine a proportion of each man's earnings which must be deferred; — withdrawn, that is to say, from immediate consumption and only made available as a right to consume after the war is over. If the proportion can be fixed fairly for each income group, this device will have a double advantage. It means that rights to immediate consumption during the war can be allotted with a closer regard to relative sacrifice than under any other plan. It also means that rights to deferred consumption after the war, which is another name for the National Debt, will be widely distributed amongst all those who are forgoing immediate consumption, instead of being mainly concentrated, as they were last time, in the hands of the capitalist class.

"The second provision is to provide for this deferred consumption without increasing the National Debt by a general capital levy after the war.

"The third provision is to protect from any reductions in current consumption those whose standard of life offers no sufficient margin. This is effected by an exempt minimum, a sharply progressive scale and a system of family allowances. The net result of these proposals is, to increase the consumption of young families with less than 75s. a week, to leave the *aggregate* consumption of the lower income group having £5 a week or less nearly as high as before the war (whilst at the same time giving them rights, in return for extra work, to deferred consumption after the war), and

to reduce the aggregate consumption of the higher income group with more than £5 a week by about a third on the average.

"The fourth provision, . . . rendered possible by the previous provisions but not itself essential to them, is to link further changes in money-rates of wages, pensions and other allowances to changes in the cost of a limited range of rationed articles of consumption, an iron ration as it has been called, which the authorities will endeavour to prevent, one way or another, from rising in price" (pp. 10-11).

Output Capacity and the National Income

Mr. Keynes then goes on to estimate for Great Britain the maximum current output that can be organised from available resources of men, plant, and materials, the rate at which foreign reserves can safely be drawn upon, and how much of the resulting total will be used up by the war effort. To facilitate the calculation his estimates are made in terms of pre-war prices. As prices are now much higher than they were in August 1939[1] and as British war expenditure is now at a rate greatly in excess of that assumed by Mr. Keynes[2] it is clear that the figures which he uses would have to be increased substantially to fit the present situation. It is however still worth while to quote these figures, since they illustrate more clearly than any summary in general terms could hope to do both his analysis and his proposals.

By absorbing a considerable proportion of unemployed workers, by bringing boys, women, and retired or unoccupied persons into employment, and by more intensive work and overtime, the pre-war national output of £4,850 million a year can, he estimates, be increased (despite withdrawals to the armed forces and other unfavourable factors) by about 17½ per cent., or £825 million. In addition some £450 million of what would normally be spent on new

[1] Mr. Keynes himself points out (p. 20) that the figures he uses would have to be increased by nearly 10 per cent. to conform to the wage and price levels current in January 1940.

The latest information now available (December 1940) indicates that by September 1940 the increases above pre-war levels were about 44 per cent. in the case of wholesale prices and 22 per cent. in the case of cost of living; and by July 1940 the increase in wage-rates was about 12½ per cent. To adjust Mr. Keynes's figures to the price levels ruling in September 1940 it would therefore be necessary to increase them by about one-fifth.

[2] According to cabled reports of a statement by the Chancellor of the Exchequer on 25 November 1940 such expenditure averaged £5.3 million a day (£1,935 million a year) during the first year of the war and £9.1 million a day (£3,322 million a year) during the first 77 days of the second year. The latter figure is £1,472 million, or nearly 80 per cent., higher than the estimate of £1,850 million a year used by Mr. Keynes.

investment and on making good current depreciation could be diverted to Government purposes. Finally a contribution of up to £350 million could be drawn from the sale of gold and foreign investments and from borrowing abroad. Altogether this yields a total of resources for additional Government requirements (above those of peace time) and current private consumption of £1,625 (£825+ £450+£350) million a year.

The additional Government expenditure will, however, he estimates, be in the neighbourhood of £1,850 million. This means that there will have to be a reduction of some £225 million below the pre-war rate of consumption for the community as a whole.[1] It is necessary therefore to withdraw from consumption £825 million of increased incomes (earned in producing the output of that amount) plus £225 million of incomes previously spent—that is, £1,050 million in all.

The imminence of this problem has, Mr. Keynes suggests, been obscured by the persistence of a substantial volume of statistical unemployment. But "this does not mean we are still in the Age of Plenty. It means that the Age of Scarcity has arrived *before* the whole of the available labour has been absorbed" (p. 18). No doubt output will be increased in the future, but this will take time. So far, moreover, Government demand has increased while private consumption has not sufficiently diminished. The deficiency has been met by drawing on stocks of commodities and on foreign resources and working capital. "The task of adjusting private expenditure to the supply which will be available is, therefore, more urgent than appears on the surface. It is not true that we can postpone action until after full employment has been reached" (p. 19).

Can the Rich Pay for the War?

Of the £1,850 million increase in Government expenditure Mr. Keynes estimates that £150 million could be taken out of accruing depreciation not made good at home and £350 million from assets and borrowing abroad. This leaves £1,350 million to be raised from additional taxes and from new savings (including normal savings), voluntary or involuntary. At least £400 million can be expected from voluntary savings, leaving some £950 million still to be found.

Could the rich provide this sum? To answer this question Mr. Keynes estimates the probable total incomes and voluntary savings

[1] These figures are from pp. 16-17 of the book. On p. 20 the necessary reduction in private consumption is stated as "at least £175 million, taking a modest estimate" and the total to be withdrawn from consumption as £1,000 million.

in each of three income groups: below £250 a year, £250-£500, and above £500. The net totals after deducting voluntary savings and pre-war taxes are £2,895, £615 and £1,045 million respectively. The conclusion reached is that "if everyone with more than £500 a year had the whole of his income in excess of that sum taken from him in taxes, the yield would not be nearly enough, being £620 million or only two-thirds of the Government's requirements" (p. 24).

"Yet this suggestion", Mr. Keynes considers, "is a wild exaggeration beyond what could be expected from our fiscal system. Indeed taxation on this scale would involve such wide-spread breaches of existing contracts and commitments that the taxable incomes themselves would be largely reduced. An important part of these incomes is spent on rates and other purposes which do not increase personal consumption, on current resources, the alternative uses of which are much less valuable, and on payments to dependants. It follows that an important contribution must be obtained one way or another from the income group below £500 a year.

"Nor is it practicable to put the exemption limit at £250 a year. There are about 2,430,000 persons with incomes above this level. If the whole of the excess of their remaining incomes above £250 was taken from them, namely £1,050 million and if this caused no reduction in the incomes by repercussion (which is far from the truth), it would only just exceed the Government's requirements. . . .

"In the light of these figures it is not sane to suppose tha the war can be financed without putting some burden on the increased war incomes of the class with £5 a week or less. For this income group accounts for about 88 per cent. of the population, for more than 60 per cent. of the total personal incomes of the country after allowing for war increases (due to greater output but allowing nothing for higher wages-rates) and deducting pre-war rates and taxes, and for about two-thirds of current consumption. Moreover the incomes of this group will have been increased on the average by some 15 per cent. as a result of the war. Is it seriously expected that those with less than £5 a week will be allowed to increase their average consumption by 15 per cent., while all those with more than £5 a week will be left on the average with only a quarter of their incomes to consume? The only question is, therefore, how large the contribution of this class must be, and how it can be obtained with least sacrifice and most justice.

"If we have a deliberate plan, considerations of social justice can be weighed and considered. Without such a plan (as at present) they go by default" (pp. 25-26).

Mr. Keynes's Plan

Of the remaining £950 million of incomes in private hands which must not be spent but must be diverted to the finance of the war some £500 million might be taken by taxation. The idea that the other £450 million could be raised by voluntary savings without any aid from inflation Mr. Keynes dismisses as chimerical. "The additional savings would have to come largely from the income group with £5 a week or less and would require a change in their habits of expenditure for which there is no evidence" (p. 29).

Whatever method is adopted the amount by which the potential expenditure of the lower income groups has to be curtailed will be more or less the same. "Inflation", Mr. Keynes considers, "will be the most burdensome alternative, since this will inevitably bring some advantage to the entrepreneur class, and might cost the worker 20 per cent. in terms of the real value of his earnings. Inflation will also be the most burdensome on the smallest incomes,—a defect it shares with a general sales-tax. New taxes, such as a sales-tax or a wages-tax, or old taxes aided by inflation are alike in that they finally deprive the workers of the benefit of their earnings from their heavier burden of labour. They will work harder, but, as a group, they will *never* derive any personal benefit from it" (p. 29). This, however, is what will inevitably happen if the usual methods are followed.

In the alternative policy which Mr. Keynes proposes the main element is a system of deferred pay. The community as a whole cannot consume *now* the equivalent of their increased war effort, for the results of that effort are used for war purposes and cannot supply increased consumption. Those who make the effort, therefore, must either forego the equivalent consumption altogether, or—and it is this that Mr. Keynes proposes—they must *postpone* it.

The remainder of Mr. Keynes's proposals are designed to ensure that most of the burden of paying for the war falls on the richer classes and that special reliefs are allowed to the poorer. Of the £500 million which is to be raised by additional taxation the bulk should come from those with incomes over £250; and the main part of the contribution of the lower income groups should take the form, not of foregoing income outright, but of merely deferring it. To ensure that adequate minimum standards are maintained a family allowance of 5s. a week should be paid in cash for each child up to the age of 15 [1] In addition a minimum ration of consumption

[1] There is at present no national system of family allowances in Great

goods should be made available at a low fixed price. This minimum ration Mr. Keynes suggests "should not comprise all the articles covered by the cost of living Index, but should be restricted to a limited list of necessaries available in time of war. Nor should any absolute undertaking be given as to future prices. It should be agreed, however, that in the event of any rise in the cost of the minimum ration, the Trade Unions would be free to press for a corresponding increase in wages.

"But it should be an absolute condition of such an arrangement that a scheme for deferred pay should be accepted at the same time, and that the Trade Unions should agree, subject to the above safeguard, not to press for any further increases in money wages on the ground of the cost of living"[1] (p. 33).

So much for the general principles. The details, which Mr. Keynes regards as a question of degree and opinion, can be summarised only very briefly in this article. In general they are designed to ensure that:

"(1) The aggregate real consumption of the group with £5 a week or less should be maintained for as long as possible at or near the pre-war level.

"(2) Those who remain in the lower half of this group are likely to have benefited least, or not at all, from the aggregate increase in war incomes, and cannot afford, therefore, to have any important part of their current earnings deferred if they are to maintain their standard of life.

"(3) Since some rise in the cost of living relatively to wage-rates (though not to total earnings) is inevitable, and since it is impossible under any scheme to avoid individual inequalities of treatment, we should make sure by means of family allowances that the inequality will work out in favour of households with families, so that these will be for certain better off.

"(4) Since the increased war incomes of the lower income groups probably represent increased work to a greater extent than in the case of the higher income groups, the contribution of the former should be mainly in the form of deferment of earnings and the contribution of the latter mainly in the shape of increased taxation" (pp. 35-36).

The general result aimed at in Mr. Keynes's calculations is that the aggregate consumption of the higher income group (that is, those with incomes above £250 a year) should be reduced by fully a third and the aggregate consumption of the lower income group

[1] "Without these conditions", Mr. Keynes explains, "the weight of purchasing power available in the hands of consumers would render any attempt at price fixation excessively dangerous. The low prices for the minimum ration would merely release more purchasing power for use in other directions, which would drive up other prices to an excessive disparity with that of the fixed ration. To attempt to fix consumption prices whilst allowing an indefinite increase of purchasing power in the hands of consumers would be an obvious error" (pp. 33-34).

not at all.[1] The scheme would thus "effect a considerable redistribution of incomes in the direction of greater equality" (p. 38).

To achieve this result Mr. Keynes proposes: that the system of children's allowances under the existing income tax should be abandoned and replaced by a flat payment of 5s. per week per child, both for income tax payers and for the insured population; that a basic minimum income of 35s. a week in the case of unmarried men and 45s. in the case of married men be free of deferment; that a percentage of all incomes in excess of this basic minimum be paid over to the Government partly as direct taxes and partly as deferred pay, the combined percentage taken rising steeply as the level of income increases; that the appropriate part of a man's withheld income be used to discharge his income tax if any and the balance be credited to him as a blocked deposit carrying interest at 2½ per cent. compound; that each individual be allowed considerable choice as to the institution—such as a friendly society, a trade union, or the Post Office Savings Bank—in which his deferred pay should be deposited; and that deferred pay be released when necessary to meet certain pre-war commitments (such as life insurance premiums and hire purchase instalments), death duties, new life insurance or endowment policy premiums, and certain family and personal emergencies such as illness. Finally, "men on active service might have their economic position made a little more equal to the position of those remaining in civilian employment by being credited with an appropriate blocked deposit proportional to their length of service. A 'veteran's bonus' is a peculiarly fit obligation for discharge by a capital levy on wealth" (p. 50); and excess company profits, after payment of taxes, might also be placed in blocked deposit.

The percentage of income to be with-held in the standard case of a married man with no young children would range from nil at an income of 45s. a week to 6 per cent. at 55s., 19¼ per cent. at 100s., 21 per cent. at £300 a year, 27 per cent. at £500, 35 per cent. at £1,000, 53½ per cent. at £5,000, and 85 per cent. at over £50,000. The amounts of deferred pay would range from nil at 45s. a week to 3s. 6d. at 55s., 15s. 10½d. at 100s., £49 a year at £300 a year, £135 at £1,000, £630 at £5,000, and £4,133 at £100,000. The gross yield expected from deferred pay is £600 million a year which, after

[1] It should however be noted, though Mr. Keynes does not draw attention to the point, that this does not mean that the average consumption of individuals in this group would be maintained; for the total numbers in the group will presumably increase.

allowing £100 million for the cost of the proposed family allowances and £50 million for other concessions, would give the required net yield of £450 million.

The amounts of income remaining after taxation and deferment would be unchanged at an income of 45s. a week, 51s. 6d. from an income of 55s., 80s. 9d. from 100s., £236 a year from an income of £300, £647 from £1,000, £2,315 from £5,000, and £15,099 from £100,000. Altogether, taking into account the family allowances, a married man with two young children would actually have more left in cash for immediate consumption for all rates of earnings up to 75s. a week and a married man with three young children would have more left for all rates up to nearly 95s. In addition family men would have substantial amounts to their credit in deferred pay.

Save for the exceptions noted, the blocked deposits would not be available for use "until after the war when they would be released by a series of instalments at dates, not unduly delayed, to be fixed by the Government. Meanwhile they should not reckon in calculations arising out of the Means Test or eligibility for old-age pensions or the Capital Levy to be proposed below or the like.

"The appropriate time for the ultimate release of the deposits will have arrived at the onset of the first post-war slump. For then the present position will be exactly reversed. Instead of demand being in excess of supply, we shall have a capacity to produce in excess of the current demand. Thus the system of deferment will be twice blessed; and will do almost as much good hereafter in preventing deflation and unemployment as it does now in preventing inflation and the exhaustion of scarce resources. For it is exceedingly likely that a time will come after the war when we shall be as anxious to increase consumers' demand as we are now to decrease it. It is only sensible to put off private expenditure from the date when it cannot be used to increase consumption to the date when it will bring into employment resources which otherwise would run to waste.

"If the deposits are released in these circumstances, the system will be self-liquidating both in terms of real resources and of finance. In terms of real resources it will be self-liquidating because the consumption will be met out of labour and productive capacity which would otherwise run to waste. In terms of finance it will be self-liquidating because it will avoid the necessity of raising other

loans to pay for unemployment or for public works and the like as a means of preventing unemployment." (pp.45-46).[1]

If, however, the war continues for two years or longer, the National Debt will reach an unmanageable figure. In such circumstances a capital levy (or tax) would be advisable. For this reason, and to overcome any doubts as to the possibility of repaying the blocked deposits, Mr. Keynes suggests that an undertaking be given that a capital levy will be enforced after the war to bring in an amount sufficient to discharge the liability in respect of deferred pay. The two should not be synchronised; for it would be best to withhold the deferred pay until the onset of serious unemployment, while this would be the worst possible time for the capital levy. "If the levy is to be paid in a lump sum, it should be discharged at the earliest possible date after the close of the war, especially if temporary boom conditions seem imminent. But it might be preferable, as facilitating collection and greatly lessening the disturbance, to collect it in a series of instalments over a period. This procedure would have the special merit that it might pave the way administratively for a permanent capital tax which would be a valuable addition to our fiscal machinery and has certain important advantages over income tax." (p. 48).

For the scheme as a whole, Mr. Keynes claims that it offers to the trade unions "great and evident advantages compared with progressive inflation or with a wages tax. In spite of the demands of war, the workers would have secured the enjoyment, sooner or later, of a consumption fully commensurate with their increased effort; whilst family allowances and the cheap ration would actually

[1] Mr. Keynes has since suggested that the system of deferred pay, to be released later as a means of combating unemployment, would be equally desirable in peace time. "I think of it", he writes, "as a first instalment of a comprehensive social policy to regulate the general rate of spending so as to avoid the disastrous alternations of boom and slump which will otherwise continue to undermine the foundations of society." Such a policy "may come to be thought of as marking the line of division between the totalitarian and the free economy. For if the community's aggregate rate of spending can be regulated, the way in which personal incomes are spent and the means by which demand is satisfied can be safely left free and individual." (Letter to *The Times,* 10 April 1940). This proposal raises issues too broad and complex to be dealt with here, but three brief comments may be offered. First, it would obviously be incomparably more difficult to secure public acceptance of the principle of deferred pay in peace time than in time of war. Second, the effectiveness of any particular scale of deferment would depend largely on the extent to which economic fluctuations originate within the country concerned; a scale appropriate to Great Britain might have little effect in such countries as Argentina, Australia, or New Zealand, and the scale required to have any marked influence in these countries might be so high as to be quite impracticable. Third, there may be other ways of regulating "the community's aggregate rate of spending" which would be at once more effective and more acceptable.

improve, even during the war, the economic position of the poorer families. We should have succeeded in making the war an opportunity for a positive social improvement. How great a benefit in comparison with a futile attempt to evade a reasonable share of the burden of a just war, ending in a progressive inflation!" (p. 34).

Comment on the Plan

Though Mr. Keynes's proposals have aroused keen interest in Great Britain—and indeed elsewhere—they cannot yet be said to have won the full support of those groups of the community whose interests they are designed to serve. It was not to be expected that they would receive either speedy or unqualified acceptance, and the fact that opinion in these groups is still divided—and indeed not clearly crystallised—does not mean that some modification of the Keynes plan may not eventually receive more general support. Apart from such points as are discussed below there is, it may be suggested, one general question the answer to which will have an important bearing on the prospects of the plan. This is the extent to which opportunities can be afforded for the effective participation of the workers' organisations both in the elaboration of any final scheme and in its actual administration both during and after the war. In any case, the fate of the plan must depend largely on the extent to which it can win the approval of the trade unions; for so revolutionary a principle as that of deferred pay could not be applied without their concurrence, and the plan as a whole seems unlikely to be adopted, either as it stands or in any form which retains its essential features, without their strong and active support.

For the present, indeed, the principle of deferred pay has been rejected by the British Government. The Chancellor of the Exchequer, in presenting his proposals for the 1940-41 Budget, expressed fears that compulsion would "kill the voluntary spirit" and endanger the success of the national savings campaign, that if the Keynes scheme were adopted wages might rise and thus nullify its effects, and that its application would involve serious administrative difficulties. He therefore preferred to rely on increased taxation and on borrowing from voluntary savings.[1] Six months later his successor again stated that no compulsory savings scheme was contemplated.[2]

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[1] *The Times*, 24 April 1940, p. 3.

[2] *The Financial News*, 9 October 1940.

Though Mr. Keynes's proposals have not yet been adopted, they and the criticism and comment to which they have given rise have thrown light on many of the central issues of social policy in war time. Certain of the points discussed which are of general interest will be surveyed briefly in the following pages.[1]

The Basic Assumptions

The plan as a whole starts from two basic assumptions. The first is that the supply of goods available for purchase by consumers will be determined by some deliberate policy and will not be influenced to any significant degree by the level of consumers' spending. The second is that the total incomes of consumers will be more than sufficient to purchase this limited supply at pre-war prices. It follows that if the incomes are all spent prices will rise, and the buyers with the longest purses will get the goods. The case for Mr. Keynes's plan is that it will secure a distribution of the limited supply of goods more equitable than any that could result from the uncontrolled disbursement of the increased money incomes.

The first of these assumptions is one which clearly must be made if the war effort is to be maximised. The second would hold good even if the supply of consumption goods could be maintained at pre-war levels, for consumer incomes are bound to rise as a result of increased Government expenditure. In fact, however, as Mr. Keynes points out, the supply of goods available for consumption in Great Britain will not merely fail to increase: it will actually decline. And since he wrote it has become clear that the decline will be much greater than he then assumed. The case for his plan is thus correspondingly strengthened.

To what exent, it may be asked, does the same case hold for other countries? Mr. Keynes has himself given an answer to the question whether any version of his plan would be suitable to the United States in present circumstances.[2] The main point he makes

[1] The reader who desires to pursue further the subject of war economics and war finance may be referred to the article by E. F. PENROSE in the present volume and to the following works: A. C. PIGOU; *The Political Economy of War* (London, Macmillan, Revised edition 1940); R. W. B. CLARKE: *The Economic Effort of War* (London, Allen & Unwin, 1940); Geoffrey CROWTHER: *Ways and Means of War* (Oxford, Clarendon Press, 1940); J. Keith HORSEFIELD: *The Real Cost of the War* (Harmondsworth and New York, Penguin Books, 1940); André PIATIER: *L'Economie de Guerre* (Paris, Librairie Générale de Droit et de Jurisprudence, 1939); E. F. M. DURBIN: *How to Pay for the War* (London, Routledge, 1939); and E. Ronald WALKER: *War-Time Economics with special reference to Australia* (Melbourne University Press, 1939). There is also an extensive literature in German.

[2] J. M. KEYNES: "The United States and the Keynes Plan" in *The New Republic*, 29 July 1940, pp. 156-159.

is that there is room in the United States for an enormous increase in output before a state of full employment can be reached and that it will consequently be possible to have defence preparations on a vast scale and, at the same time, a greater individual consumption and a higher standard of life. "There is, therefore", Mr. Keynes considers, "no reason . . . to restrict consumption or to stimulate saving by compulsory methods. Normal saving should be adequate without the aid of any greater rise in prices than is inevitable in the event of any large increase in output, however caused."[1] Not until the stage of full employment is reached will further expansion in defence preparations be possible only at the expense of consumption, and the plan advanced by Mr. Keynes for Great Britain call for examination in the United States. This stage is, Mr. Keynes believes, a long way off; indeed he would not expect it to be reached unless the United States were also supporting a large army in the field.

To answer the same question for other countries a similar examination would have to be attempted of the relation of defence programmes to unemployed resources. If in any particular instance it becomes necessary, as in Great Britain, to maximise the proportion of resources devoted to war production, the same necessity for limiting, and eventually reducing, the level of consumption must inevitably arise. If, however, something less than the maximum possible war effort is considered adequate, and if there is available a volume of unused productive resources sufficient to enable the desired output of war goods to be attained and to make possible at the same time an increase in the production of consumers' goods sufficient, or nearly so, to absorb the increased money incomes, there will be no need to resort to any such plan as that which Mr. Keynes proposes.

Any statement so general as this is subject, of course, to qualification in points of detail. Even if only a limited defence programme is attempted, and no general reduction in consumption becomes necessary, shortages of particular types of labour, equipment and materials needed for that programme may make it necessary to curtail the production of certain classes of consumption goods. Conversely, even if every effort is made to maximise the production of war goods, there may be a limit to the rate at which this type of production can be expanded: a limit set by such factors as a shortage of essential raw materials or capital equipment or skilled labour, or the difficulty of shifting workers to the points where they are wanted,

[1] *Ibid.*, p. 158.

or any of a variety of other problems involved in changing over from one type of production to another. And it may be that during a period of transition resources which cannot yet be used for the production of war goods can still serve, or can be made to serve, to produce the types of goods that consumers want to buy. In any country which is determined to maximise its effort for defence or war such exceptions as these are bound, however, in the long run to be of little importance. They represent defects in organisation which those responsible for planning the national war effort must make it their business to remedy. Sooner or later, as full employment is approached, the problem of securing an equitable distribution of a limited supply of consumption goods is bound to arise; and when this happens Mr. Keynes's analysis and proposals will deserve to be considered.

Voluntary Savings versus Compulsory Deferment

One of the main subjects of controversy is the relative merits of compulsory and voluntary savings. Compulsory methods, it has been suggested, accord ill with traditions of democracy and freedom. Voluntary savings, on the other hand, are valuable as an opportunity for the expression of individual patriotism. They are moreover adjusted automatically to the varying ability of different individuals to forego expenditure, and thus take account of variations in personal circumstances in a way that no system of taxation or forced loans can hope to do. To impose a system of deferment or "forced loans" would, it is feared, be to discourage voluntary saving, the possibilities of which have not yet been fully explored. The result might be to reduce rather than to increase the total volume of saving. Wage earners in particular, it is argued, might save less under "a compulsory system hedged in by safeguards against inequities and injustices as between one household and another" than under the voluntary system, since the psychological reaction to compulsory levies would be adverse to additional voluntary saving, and consequently "the saving capacity of the household enjoying a temporary and fluctuating accession of income through extra employment and overtime would not be tapped, and it is in these cases, perhaps rare numerically but whose resources are heavy in the aggregate, that the capacity of saving is greatest".[1]

To these criticisms Mr. Keynes replies in effect that, while voluntary saving is entirely desirable and is beneficial so far as it goes, it is only by the method of inflation, with all the hardship and

[1] Letter from Sir Theodore CHAMBERS in *The Times*, 21 March 1940, p. 9.

inequity inevitably involved, that such saving can be brought about on a sufficient scale.[1] That some rise in prices is to be expected is indeed common ground, for those who advocate reliance on voluntary saving do not claim that it can arrest inflation altogether. The difference in the dimensions of the inflation expected is a difference of degree, but it is one which may be of vital importance to those sections of the community which bear the brunt of rising prices. A special interest attaches, therefore, to Mr. Keynes's analysis on this point. For reasons of space this analysis, which is illustrated by 1914-1918 figures and by estimates for the present time, cannot be given in full here but its general nature can be indicated. "There is", says Mr. Keynes, "no difficulty whatever in paying for the cost of the war out of voluntary savings;— provided we put up with the consequences. . . . A Government, which has control of the banking and currency system, can always find the cash to pay for its purchases of home-produced goods. After allowing for the yield of taxation and for the use of foreign reserves to pay for the excess of imports over exports, the balance of the Government's expenditure necessarily remains in the hands of the public in the shape of voluntary savings. That is an arithmetical certainty; for the Government having taken the goods, out of which a proportion of the income of the public has been earned, there is nothing on which this proportion of income can be spent. If prices go up, the extra receipts swell someone's income, so that there is just as much left over as before" (p. 61). The "someone" whose income is increased by rising prices is in general the owner of goods. A large part of his profits will be taken in taxes but "it is likely that a considerable proportion of the balance will be voluntarily saved; not so much because the recipients, being relatively rich, will save more readily, but because the profits will largely belong to companies which will be disinclined, for various reasons, to distribute the bulk of them in higher dividends but will prefer in the circumstances to save them on behalf of their shareholders" (p. 65). Money wages also will rise after a time lag. Wages and other costs will in fact chase prices upwards but prices will always be a jump ahead. "However much wages are increased, the act of spending these wages will always push prices this much in advance" (p.

[1] Mr. Keynes does refer to another possible method—namely, control of the production or consumption of consumers' goods so comprehensive and so strict as to leave consumers with a significant fraction of their incomes which they would be unable to spend and so would have to save—but dismisses it as an "elaborate, roundabout and wasteful method" of arriving "at the same result as if that fraction of their incomes had been deferred from the outset" (pp. 52-53).

66). Moreover, pensioners and *rentiers* with fixed money incomes cannot escape a sacrifice. "It is these time-lags and other impediments which come to the rescue" (p. 66). "Thus, after all, the system of voluntary savings will have worked successfully. That is to say, the money will have been raised 'voluntarily' without an unlimited increase of prices. The only condition for its success is that prices should rise relatively to wages to the extent necessary to divert the right amount of working class and other incomes into the hands of the profiteers and thence into the hands of the Treasury, largely in the form of taxes and partly in the form of extra voluntary savings by the profiteers" (p. 67).

Whether the term "voluntary" is appropriate is, says Mr. Keynes, a matter of taste. "It is a method of *compulsorily* converting the appropriate part of the earnings of the worker which *he* does not save voluntarily into the voluntary savings (and taxation) of the entrepreneur" (p. 69).

If this method is followed, the claims on future consumption and the advantages of security which owners of savings enjoy will be concentrated after this war, as they were after 1918, in the hands of a small class of persons. Under Mr. Keynes's plan they would be distributed widely throughout the community.

Administrative Difficulties

Closely connected with the objection to compulsion as being likely to deter voluntary saving is the criticism that it would involve serious difficulties in administration. It would require, for example, the exact ascertainment of large classes of incomes about which little or no information is at present available. To avoid anomalies and injustice, household as well as individual incomes would have to be taken into account, for "the household and not the individual is the fundamental unit of earning and spending. . . . There is not only an infinite variety of circumstances connected with commitments and dependants as between one household and another, but the needs of the household in monetary terms vary from week to week and are rarely static. One week the aggregate earnings of the household may rise and the next week fall. The commitments towards dependants vary with the coming and going of dependants. There is nothing static about the relationship between needs and resources in the wage earner's household. Mr. Keynes's proposal is to assess deferred pay on the basis of the wages of the individual. This will not fit in with the facts of life. Were such a proposal to be put into force there would be a demand for an adequate 'means

test' and indubitably the minds of the people would be turned in the direction of avoidance of the levy."[1] Even if such avoidance could be checked the scheme as a whole might be undermined by a tendency among persons of means ot draw on accumulated savings in order to offset the levies and maintain customary rates of spending.

For the solution of such problems as these a vast and complicated administrative system would be needed. Even with levies on the rather modest scale proposed by Mr. Keynes it would be essential, in the interests of equity, to make allowance for the infinite diversity of personal circumstances; and with levies increased to match the present rate of war expenditure such adjustments would be even more imperative. The more drastic the levies the greater, too, would be the incentive to evasion; and it might in any case be advisable to add to the plan some provision designed to check dissaving by persons of property.

No less important, however, for the success of the plan than any legislative or administrative ingenuity would be a wide measure of popular understanding and support. Given adequate support it should not prove impossible, though it would undoubtedly be both difficult and expensive, to collect whatever detailed information on individual and household incomes might be needed for the fair assessment of levies and exemptions; and this information, once obtained, would be of value for the planning of other measures of social and economic policy both during and after the war. Widespread understanding of the aim and method of the plan might serve, moreover, as the basis for a public opinion capable of exercising a restraining influence on any tendency of persons in favoured circumstances to evade the purpose of income levies by maintaining their customary rate of spending.

If despite the pressure of public opinion and the enforcement of such other checks as might be devised, evasion by dissaving developed on such a scale as to diminish seriously the effectiveness of the plan it might be necessary to supplement it with a rule that no person should spend more than a certain sum in any period in retail shops[2], or with measures designed to "freeze" existing savings directly by prohibiting, save in exceptional cases, the withdrawal of sums from deposit or savings accounts, the sale of securities or

[1] Letter from Sir Theodore CHAMBERS in *The Times*, 21 March 1940, p. 9.

[2] This has been suggested by Mr. M. Kalecki as an alternative to the Keynes plan (M. Kalecki: "A scheme of curtailment of consumption" in Oxford Institute of Statistics: *Bulletin*, Vol. 2, No. 3 (mimeographed), July 1940, p. 7). In order however to avoid sacrificing the advantages of other features of the Keynes plan, it would seem preferable instead to add to it, if the need arose, the limit on individual expenditure which Mr. Kalecki has proposed.

other property or the spending of moneys received from such sources as insurance policies.

The Distribution of the Burden

More fundamental and more difficult to reconcile are the differences of opinion as to how the burden of the war should be distributed among the different income groups. The central question is not so much how to pay for the war as who is to pay for it. Mr. Keynes has been careful here to emphasise that the details of his plan are open to discussion and amendment; almost the only point on which he has insisted is the fact that, although the rich can and should bear a great part of the burden, their total income is not sufficient to cover the whole cost; part of the burden must therefore fall on those members of the lower income groups whose income exceeds a necessary minimum. This contention was not seriously challenged, even at the time when it was first put forward. Now, when war expenditure is running at a rate much higher than any then foreseen, Mr. Keynes's argument is greatly strengthened. To concede this point is not however to accept the particular scale of levies suggested in the plan, and it is on this scale, and on the proportions in which the levies should be allocated between deferred pay and taxation, that most criticism has concentrated.

A married man with £4 a week, it is pointed out, would have only £3 7s. 9d. left after deduction of the levy, while a married man with £19 a week would have £12 10s. Why so great a difference, if the aim is to reduce spending power? Again, if the war lasts three years, the group with incomes over £250 a year would get back deferred pay to the amount of £1,050 million, or 55 per cent. of their total income for one year, while the group with incomes of less than £250 would get back only £750 million, or 25 per cent. of one year's income. How can this be reconciled with the aim of reducing inequality? Those with incomes below £250 would have an average of 8½ per cent. of their total income retained in deferred pay; those above £250 an average of 18 per cent. The latter would postpone a larger part of their spending power because they can afford to do so. But does not this mean that they could bear heavier taxation?

Such criticisms as these raise the whole question of the distribution of wealth and income. It is Mr. Keynes's aim to modify this distribution in the direction of greater equality. What his critics contend is that he does not go far enough: the change, they say, should be both greater and faster. On such issues as these no easy agree-

ment is to be expected. On the one hand, the radical changes which war brings in the economic and institutional framework underlying the existing distribution strengthen the case which can be made at any time for modifying that distribution in the direction of reducing inequality; while on the other a balance must be struck, in framing any practical policy, between the disorganisation and social costs involved in any sudden departure from customary conditions and the benefits to be expected from the achievement of greater equality. On all these matters there is clearly room both for difference of opinion and for negotiation.

The problems involved, it may be noted, are not merely political and ethical but economic as well; for what matters most for the purpose of maximising war effort is not whose spending is restricted but whether the productive resources set free by the reduction in spending can be adapted quickly to war uses. Drastic levies on high incomes, by reducing inequality, may improve morale; but apart from this they can serve immediate war needs only to the extent that the resources formerly used to supply the demands of the rich can be used either directly to produce war supplies or indirectly to increase the efficiency (by improving the living standards) of workers engaged in producing such supplies. To stress such points as this is not, of course, to imply that an approach to greater equality of incomes in time of war is either impracticable or undesirable. Such considerations must, however, be taken into account —in addition to the general social consequences involved—in any estimate of the rate at which the movement in this direction may advantageously proceed.

They are relevant in particular to the suggestion sometimes made that for the period of the war all income above a certain level should be taken by the State. To the extent that such a measure, by curtailing luxury consumption, set free resources useful for essential production it would contribute to the maximising of war effort; but for the rest it would serve merely to reduce to idleness labour and capital equipment which might just as well continue in their usual employment. How large a proportion of the resources set free would fall within the latter group it would be difficult to estimate: but it can be assumed that over a period this proportion could be progressively reduced by measures of organisation and transfer. In the long run therefore the objection on this ground to proposals for an "income ceiling" would diminish in importance; and a second possible objection—that any rigid limit would involve hardship in individual cases—could be overcome by a system of exemptions or allowances.

On grounds of equity the case for an upper limit to incomes in time of war is very strong; and as the rate of war expenditure increases, making necessary a stiffer and a steeper scale of levies in any such plan as that of Mr. Keynes, a limit of this kind is likely to be regarded increasingly as a logical development of the plan. Its adoption, together with a steeper graduation of levies on all incomes in the range between the limit chosen and the minimum essential to the maintenance of health and efficiency, would do more than any other fiscal measure to distribute the financial burden of the war among the different classes of the population in proportion to their ability to pay. For reasons of efficiency this is the distribution which should be aimed at, for it is only in this way that the restriction of consumption necessary to release resources for war production can be achieved without seriously depressing the standard of living and consequently the efficiency of large numbers of the working population. Considerations of social justice point clearly in the same direction. "There is," as Professor Pigou points out, "a general feeling that, in a pre-eminent national emergency, the call from each should be for his *utmost* rather than for his *share*. Men are required to give of their physical strength, not in equal proportions, but from each his all. There is no question of proportionate sacrifice between men of fuller and emptier lives. Indeed, the strong are taken and the weak rejected. It is difficult to see what ground of equity there can be for any different distribution in the summons to financial strength."[1] That such considerations as these, self-evident as they may seem, still need to be emphasised is shown by the results of a recent enquiry which suggest that, so far from the costs of war being met by different groups of income receivers in proportion to their ability to pay, the percentage of wages and salaries below £250 a year taken for war purposes in Great Britain during the first year of the war was almost as high as the percentage taken from other incomes.[2] It is one of the merits of Mr. Keynes's plan that, with an appropriate adjustment of the scale of levies suggested by its author, it could be used to correct the gross inequity of this situation.

Whether or not a definite "income ceiling" be adopted and whatever be the scale of levies fixed under the plan, there remains to be considered the question of the proportions in which these levies should be allocated to taxation and to deferred pay. In the lower

[1] A. C. PIGOU: *The Political Economy of War* (London, Macmillan & Co., 1940), pp. 84-85.

[2] Cf. M. KALECKI: "War Finance in the First Half of 1940", in Oxford Institute of Statistics: *Bulletin*, Vol. 2, No. 7, pp. 7-18.

income group the proportion to be credited as deferred pay must be high: for the whole object of the deferred pay plan is to guarantee to workers, whose special efforts cannot be rewarded by higher living standards while the war is on, the means to purchase an increased share of post-war production. There is however no justification for treating higher incomes in the same way: indeed to do so would be to defeat the object of the plan. If any substantial part of the levies on large incomes were to be credited as deferred pay, the effect in the post-war period would be to undo in part both the "positive social improvement" achieved during the war and the benefits expected by wage-earners from their own deferred pay; for (in the absence of drastic changes in the methods of peace time taxation) members of the lower income groups would then be taxed to help pay the sums due to the rich. Apart from their direct effect on living standards such transfers from the lower to the higher income groups, by increasing the average propensity to save, might render difficult the maintenance of full employment. Moreover, the existence of a heavy prior charge on state revenue, in the form of war loan interest and sinking funds, would add to post-war budget problems and prejudice the development of social services. Such ill effects could, it is true, be slightly mitigated by allowing no interest on deferred pay (instead of the 2½ per cent. proposed by Mr. Keynes); and they could be further reduced by meeting the claims for deferred pay out of the proceeds of further compulsory interest-free loans to be raised from time to time in periods when the community's propensity to save rose to excessive levels. Or they could be eliminated altogether by obtaining the wherewithal for repayment from special post-war levies on high incomes or on capital. But this last at least is surely an unnecessarily roundabout—not to say disingenuous—way of arriving at a result not greatly different from that which might be achieved more directly and more simply by diminishing sharply, for each step upward in the income scale, the proportion of the total wartime levies to be credited to deferred pay.[1]

To this more direct method there is, it is true, one objection which deserves to be considered: namely, that it might weaken the incentive to effort. The smaller the proportion of the levies to be credited and repaid the less, it might be thought, will be the induce-

[1] It is not intended to imply that such a modification of the Keynes plan would eliminate altogether the need for a post-war capital levy. Substantial amounts of deferred pay would still accumulate and these, together with voluntary loans to the State, would be likely to make up a total war debt sufficiently large to call for the imposition of such a levy, though on a scale much more moderate than if the debt were swollen by large amounts of deferred pay credited to receivers of high incomes.

ment to those leaders of industry on whose energy, initiative and organising skill the output of essential goods, even in industries subject to extensive State control, must depend in some considerable degree, to put forth the exertions needed to maximise production. In any but a time of national emergency this objection might carry weight, but it is difficult to believe that at such a time, when other inducements are unusually strong, the efforts of industrialists will be so closely adjusted to the dimensions of their net pecuniary reward. There is, moreover, another aspect of the matter which should not be overlooked. The spectacle of inflated war profits and high salaries, a large part of which can be salted away for post-war enjoyment, is scarcely calculated to inspire wholehearted effort on the part of the great mass of less fortunate industrial workers. There is at least a possibility that any slackening of effort in the higher income group as a result of steeply progressive taxes would be more than offset by the encouragement given to other and more numerous groups of the working population by an approach to greater equality of incomes. When in addition it is realised that for members of the higher income group the propect of recovering deferred pay might well prove illusory—since any large war debt is likely to render inevitable special taxes on large incomes or capital—and might from the outset be recognised as such, the conclusion is bound to be that the difference in the net incentive value of different degrees of income tax progression is not likely to be very great. The case for increasing sharply with each step upward in the income scale the proportion of levies to be taken as taxation is, therefore, very strong.

It is sometimes suggested that greater use might also be made of other types of taxes. There is nothing in this suggestion that need run counter to the Keynes plan, provided always that the new taxation is not regressive in its incidence; for regressive taxes would undo the benefits of Mr. Keynes's graduated levies. Taxes on luxuries comply with this condition, and might help in some degree to discourage attempts to evade the main purpose of the levies by drawing on accumulated wealth. The more successful such taxes are, however, in checking luxury consumption, the less they will yield; and in any case the maximising of war effort implies the withdrawal from industries producing non-essential goods and services of all resources which can be used for war production. Another proposal frequently put forward is that for the duration of the war all profits above a certain level or all excess profits traceable to the war should be taken for the State. This proposal has in fact been adopted in Great Britain, where the rate of Excess

Profits Tax was raised in May 1940 to 100 per cent. Mr. Keynes, writing three months before this proposal was adopted, described it as a "counsel of perfection" but inadvisable in practice "because it would deprive those, who would nevertheless remain in control of their businesses, of any incentive towards economy; and the experience of the last war showed that this is liable to lead to great extravagance and waste" (p. 50). A further objection, as in the case of steeper income levies, is the possibility that taxation on such a scale as to leave the entrepreneur no opportunity for extra gain might weaken the incentive to effort and initiative. It is, however, difficult, for reasons already outlined, to concede much weight in war time to this latter objection. To suggest, as is sometimes done, that wage earners should put forth their maximum effort for motives of patriotism and without asking for wage increases, and to argue at the same time that the incentive of increased profits must be maintained for the entrepreneur is, to say the least, illogical. Altogether the case for financing the cost of the war to the greatest possible extent from taxation is so strong, and the need for tapping every available source of revenue so great, that taxation of profits should certainly be pushed to the highest point compatible with industrial efficiency. Too much should not, however, be expected from this type of tax, for unless inflation is allowed to develop on a considerable scale—and this, it is urged, should at all costs be avoided—the rise in profits will not be very great.

In addition to more steeply graded income taxes and other taxes designed to diminish unessential consumption, there should, it is suggested by some critics, be an annual tax on capital not merely after but during the war. To those who urge a capital tax as a method of war finance, Mr. Keynes replies that it "would do little or nothing to solve the immediate problem. A Capital Levy on a scale worth having could not be met out of the current consumption of the wealthy. They could only pay it by handing over assets to the Government, the capital value of which would be of no assistance whatever to the immediate financial task. Nothing is of the least use now which does not diminish consumption out of current income; and . . . no expedient can be adequate which allows the increased purchasing power of the lower income groups to materialise in a corresponding increase in their consumption. There is no avoiding a postponement of expenditure on the part of this group, except by inflation which allows them to spend and deprives them of the fruit of spending" (p. 49). The fact that a capital tax would not solve the immediate problem—which is to divert income from current consumption—does not, it is true, rule out the case for it

as a means of diminishing social inequality. Acceptance of a capital levy would, moreover, be—to quote one advocate—"an earnest of real preparedness to accept a large measure of redistribution of wealth at the expense of the capitalist class."[1] As such it might go far to reassure those critics who fear that an undertaking to impose a capital levy after the war might not in fact be carried out. As against such possible advantages, however, due weight must be given to the possible repercussions of any substantial capital tax on property markets disorganised by war, the difficulty at such a time of ensuring equitable treatment as between holders of different types of property, and the difficulty, time and labour involved in the ascertainment of capital values. Such difficulties, Mr. Keynes believes, might prove insuperable. Undoubtedly they would call for special measures of a kind which a levy imposed immediately after the end of a war might not necessitate.

Even if the rate of tax were low enough to be paid in most cases out of the income from the property concerned many of these difficulties would remain, while the results achieved would differ little from those which might be secured by the much simpler and more easily administered device of a discriminatory income tax on incomes derived from property. Once this is realised such special virtues as can be claimed for an annual tax on capital seem far from adequate to justify the trouble it would involve in time of war.

Some Implications for Wage Policy

Mr. Keynes's plan is not concerned primarily with the problem of wages. "It is wiser", he thinks, "to deal with it indirectly" (p. 55). If some such scheme as he has proposed is not adopted a significant rise in prices cannot be avoided and real wages will inevitably be seriously reduced. If, however, by the adoption of his proposal for deferment of income, purchasing power is withdrawn from circulation there will be no reason why the vicious cycle of prices and wages should be started by the forcing up of prices at the demand end. "There might", he suggests, in elaboration of a proposal outlined above, "be certain subsidies in part compensation for price increases due to the higher cost of imports and some rise of wages for grades of labour which already had a special claim for an improvement. But the main reason for the development of an acute wages problem would have been removed, and we could

[1] G. D. H. Cole: "Economic Consequences of Mr. Keynes", in *The Tribune*, 29 March 1940, p. 7.

safely leave the sequel to the common-sense and public spirit of trade unionists as to what is or is not reasonable in time of war.

"Nevertheless, if a scheme for deferment of pay is adopted, this would make practicable a further measure which might considerably ease the wages problem. For with an adequate proportion of consumers' purchasing power withdrawn, the risk and expense of a deliberate policy to keep down the prices of a limited range of necessities might be no longer prohibitive. I suggest, therefore (contingently on the adoption of a scheme for deferment of pay), that a limited range of essentials, considerably narrower than the list covered by the Ministry of Labour Index Number for the cost of living, should be drawn up and that the Government (without giving any specific pledge) should do their best to prevent any rise in an index number based on the cost of these articles; and that on their side the Trade Unions (also without giving any specific pledge) should agree that they will not press for any wage increases *on the grounds of the cost of living,* except in so far as the Government may be unsuccessful in keeping the above index number from rising. This suggestion is in no way essential to our main proposals, but is a further development which these proposals would facilitate" (pp. 56-57). The final sentence of this extract is worth underlining: the proposal to link wages to the prices of necessaries is, Mr. Keynes considers, rendered possible by his plan; but it is not essential.

Elsewhere in his book, Mr. Keynes describes the limited range of necessaries to the prices of which wages would be linked as an "iron ration"—a term which has suggested to some critics a type of minimum subsistence that would be incompatible with either the self-respect or the health and efficiency of the wage-earner. Doubtless such an interpretation does less than justice to Mr. Keynes's intention, but until his proposal is made more specific the suspicions of the critics are likely to persist. It is clear in any case that if the plan as a whole should become at a later stage a subject of actual negotiation a good deal would turn on the interpretation given to details of this kind.

Apart from such comments on particular aspects of the plan, most of the discussion of its implications for wage policy has been concerned with the general question of the proportions in which the cost of the war is to be shared as between wage earners and other groups in the community. As such it has been noted briefly above in the section on the distribution of the burden.

The writer has not as yet seen any discussion of the difficulties which might be involved in the actual application of an undertaking

that (with the exceptions noted) wage increases would not be sought on the ground of rising costs of living, or in any attempt to limit wage increases to those "grades of labour which already had a special claim for an improvement". Yet in practice, it may be suggested, either of these policies would be likely to raise problems of considerable difficulty. It may be, as Mr. Keynes assumes, that stabilisation of the cost of necessaries would remove the main reason for the development of an acute wages problem; but it is easy to overestimate the influence of the cost-of-living factor in wage negotiations, and an agreement to eliminate all reference to this factor might in practice have little effect at a time when many types of labour are in short supply and the demand for them is keen. For much the same reason an attempt to limit wage increases to workers with special claims for improvement might stand little chance of success unless it formed part of a comprehensive system of regulation covering both wage rates and the movement or engagement of workers.[1] There is not space here to examine the problems involved in the operation of such a system, but it need scarcely be emphasised that they would be both complex and persistent. For their successful solution the full collaboration at all stages of trade union and employer representatives would be essential.

Finally, it may be suggested, there will be other problems of wages besides those referred to which will need attention. In time of war some industries must languish and decline and the wages of their workers may remain or fall unduly low. Two of Mr. Keynes's proposals—family allowances and low prices for necessaries—would, it is true, do much to safeguard the position of such workers, and his plan as a whole, by restricting the tendency to inflation, would remove one of the main causes of their distress. It is, however, by no means certain that these measures would be sufficient. Where trade union organisation is weak an extension of existing minimum wage fixing machinery or some new arrangement for this purpose may prove desirable.

Conclusion

Mr. Keynes's analysis has done much to clarify the central issues of war finance. The plan he offers is open to amendment,

[1] Cf. in this connection the accounts of experience during 1914-1918 given in Humbert Wolfe: *Labour Supply and Regulation,* (Oxford, Clarendon Press, 1923); Henry Clay: "Government Control of Wages in Wartime" in *The Problem of Industrial Relations and other Lectures* (London, Macmillan & Co., 1929); and William Oualid and Charles Picquenard: *Salaires et Tarifs. Conventions collectives et Grèves. La Politique du Ministère de l'Armement et du Ministère du Travail* (Paris, Les Presses Universitaires de France, 1928).

and opinions will differ as to the ways in which it might be best adapted to present levels of British war expenditure or to the special circumstances of other countries. But for its main objectives —an equitable distribution of the war burden, greater economic equality and a reduction of post-war instability — there can be nothing but approval.

The plan as a whole, with such amendments as may be needed, must be judged against the possible alternatives. In the list of these, the financing of all war expenses out of taxation is scarcely to be included; for however desirable it may be to rely on taxes to the greatest possible extent it would be unrealistic to expect them to cover anything like the whole cost. In a prolonged war the real alternatives to some such scheme as that of Mr. Keynes must be either the regimentation involved in wholesale rationing, price fixing, and wage control, or such a degree of inflation as would bring intolerable hardship to all persons dependent on small fixed incomes and to all sections of the workers save the fortunate few whose strategical position might enable them to secure corresponding wage advances. Against such alternatives the advantages of Mr. Keynes's main proposals seem likely, as time goes on, to stand out in increasingly sharp contrast.

Relative Wages in Wartime

by

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IN any time of relatively stable economic conditions, the rates of wages current in different industries and occupations form an organic system. Each rate bears some relation, directly or through connected links, to every other rate, and the system as a whole is the resultant of those complex forces—consumers' choices, the technique of production, the elasticity of supply of labour and capital, organisation and bargaining strength, custom and the institutional framework—which constitute the labour market. In a structure so delicately balanced a change at any point brings corresponding changes elsewhere. An increase in the demand for a particular commodity, leading to higher wages for the workers who make it, exerts an upward influence on the wages of similar workers elsewhere; and other groups whose wages bear some customary relation to the rates affected will expect a corresponding increase. If at the same time there is a fall in the demand for another class of goods, forces of an opposite kind are set in motion in the industry concerned.

In ordinary times most such changes in the demand for different types of labour, and consequently in relative wage rates, take place gradually. They continually modify but they do not disrupt the established structure of customary rates. When, however, a peaceful country is suddenly plunged in war, forces are set in motion which may destroy completely the customary equilibrium.

War Demand and the Wage Structure

Certain types of production must be expanded enormously and with the greatest possible speed and new types of production are begun. The demand for workers with the special skills essential to the execution of this programme quickly outruns the available supply. Rival firms outbid one another to get or keep the men they need, and both earnings and wage rates rise rapidly. The rise may be restrained to some extent by workers' unwillingness, for patriotic reasons, to extract monopolistic gains at the national expense, but it is certain, in the absence of rigid and far-reaching controls, to go far enough to upset established ratios between wages in different industries and occupations. If at the same time costs of living start to rise and high profits begin to emerge, trade unions in the industries where demand is keenest will feel justified in pressing for substantial wage increases and the competitive scramble for workers, by pushing up wage rates in individual establishments, will pave the way for more general advances. If in addition contracts for war supplies are being let on a "cost plus" basis (the contractor receiving a payment sufficient to cover his costs plus a specified percentage for profit), or if all profits above a certain rate are taken in taxation, there will indeed be little incentive for employers in these industries to resist the pressure for higher wages.

In industries producing solely or mainly for civilian needs, opposite conditions are likely to prevail. Reduced demand and shortage of materials will contract the operations of factories and distributors; employment and earnings will fall, and wage rates if they do not actually decline will at least be unable to maintain anything like their usual relation to rates in force elsewhere. With costs of living rising the result is hardship; and the hardship is felt the more severely for its contrast with conditions in the industries producing war supplies.

Differences in the experience of different groups of workers within a particular industry may be no less striking than the contrast between the fortunes of different industries. Where rapid expansion is taking place both methods of production and terms of employment are apt to vary in different establishments, and differences in the wages paid for similar work may cause unrest. Apart from such anomalies margins for skill in general are likely to be affected, though not necessarily to the same extent, or even in the same direction, in different occupations

or in the same occupation at different times. Those special groups of highly skilled workers whose membership is limited and difficult to increase and whose work, though in great demand for essential production, does not lend itself to subdivision among "dilutees", may greatly improve their relative position. Elsewhere, however, the margins for skill are in the long run more likely to decline. As shortages of goods develop and prices rise there is a tendency to increased emphasis on the cost of living factor in wage negotiations. Wage adjustments, particularly those made by wage fixing authorities, are apt to take the form of flat-rate increases which improve the relative position of the low-paid worker but worsen that of the better paid. Other factors contribute to the same result. In industries producing for war needs, mass production, with a high degree of division of labour, increases greatly the demand for semi-skilled workers and for this and other reasons the organisation and bargaining power of both semi-skilled and unskilled workers are likely to improve. Any customary element in skilled workers' margins which may no longer be justified by higher productivity or supported by war demand is likely to be undermined and the secular trend to lower margins[1] at once strengthened and made manifest. Even if this does not occur there may be marked changes in relative earnings: for production on a larger scale and improved methods may enable unskilled and semi-skilled workers, paid by the piece, to increase greatly their hourly output and earnings, while skilled workers, who are usually paid at time rates, receive the same hourly earnings as before. Nor is this all: for while those below the skilled worker in the industrial scale are catching up, his superiors are apt to forge ahead. With capacity production even small rates of profit yield large total gains and the upper ranks of management at least will likely share in the prevailing prosperity. To those skilled workers whose position in the industrial scale is thus worsened, though their skill and output are as great as ever, the change appears as a rank injustice. The inevitable consequences—unrest, demoralisation, reduced efficiency—would be serious enough at any time. When a country is at war they may be positively dangerous.

To add to the difficulties created by such changes in the relative wages of existing occupations there are apt to be per-

[1] Due to such factors as the extension of popular education. Cf. A. G. B. FISHER: "Education and Relative Wage Rates", in *International Labour Review*, Vol. XXV, No. 6, June 1932.

sistent controversies over the rates fixed for what are in effect new occupations. New products are called for and in the case of many things already made the changes in the scale of production are such that the organisation and methods in use must be revolutionised: small workshops are replaced by mass-production and the technique of the assembly line. Much of the work formerly done by highly skilled labour is divided up among new classes of specialised semi-skilled workers who must be recruited and trained for the purpose. Whenever such changes occur, difficult problems of wage fixing arise. Wage rates must be set both for new types of work and for new classes of workers, of whom not the least important will be the women drawn into industry to replace men needed elsewhere. Though comparison with other types of work can furnish useful guidance, both the scope of controversy and the possibilities of error are enlarged by the absence of that body of custom which ordinarily limits the range of disagreement in wage negotiations.

The Experience of 1914-18

The records of 1914-18 abound in illustrations of the problems just outlined. As an outstanding example of the varying fortunes of different industries there is the case of engineering and textiles in Great Britain: "The war advance of the engineer was very nearly equal to the whole wage of the cotton worker, who, as being furthest from munitions production, was least able to obtain war advances."[1] In the mining industry at one time war bonuses for certain groups of workers amounted to 29s. a week, as compared with 15s. in engineering and allied industries.[2] Even within particular industries there were marked disparities. In the Clyde shipbuilding industry at the end of the first year of war the increases over pre-war rates that had been conceded to different classes of tradesmen varied from 2 per cent. in the case of painters to 43½ per cent. in the case of fitters[3]; and at a later stage sheet-metal workers, whose labour was in urgent demand, were granted an additional advance although they already enjoyed a bonus 13s. a week higher than that of the rest of the engineering trades.[4] In other belligerent countries similar divergencies appeared. Thus

[1] Humbert Wolfe: *Labour Supply and Regulation* (Oxford, 1923), p. 245, note.

[2] Henry Clay: "Government Control of Wages in Wartime", in *The Problem of Industrial Relations and Other Lectures* (London, 1929), pp. 40 and 56.

in France wages rose much faster in the large-scale industries producing war supplies and in armaments factories than in the small-scale undertakings which were catering mainly to civilian needs.[1] Within particular industries there was a considerable range of variation[2] and in the provinces the average level of wages rose more than in Paris.[3] In the United States average annual real earnings in manufacturing rose 12.4 per cent. from 1915 to 1918, compared with an average increase in all industries of 6.6 per cent.; in water transportation also wages rose more than the general average, while in street railways they fell some 9 per cent.[4] In the "unclassified" groups of occupations, which included a large amount of "non-essential" production and in which "the natural lag of wages when prices rise was not . . . so strenuously combated by public policy acting through wage adjustment boards and aiming to make wages keep pace with rising costs of living"[5], there was a decline of 18 per cent. in average annual real earnings from 1915 to 1919.[6]

No less marked than the varying fortunes of different industries during 1914-18 were the changes in the relative positions of different grades of skill. In almost all the countries which felt the influence of war, margins for skill declined.[7] The fall was particularly great in Germany, where currency inflation and the rise in living costs were greatest; but even in New Zealand, where the rise in cost of living was relatively small, margins were appreciably reduced. When wage increases or special bonuses were granted to offset the higher cost of living they frequently took the form of equal absolute increments in all grades of skill.[8] The skilled worker, who already received

[1] Lucien MARCH: *Mouvement des prix et des salaires pendant la guerre* (Paris, 1922), pp. 274 and 297; cf. William OUALID and Charles PICQUENARD: *Salaires et tarifs. Conventions collectives et grèves. La politique du Ministère de l'Armament et du Ministère du Travail* (Paris, 1928), pp. 123-124.

[2] William OUALID and Charles PICQUENARD: *op. cit.*, pp. 355-357.

[3] Cf. Lucien MARCH: *op. cit.*, pp. 263, 267, etc.

[4] Basic data from W. I. KING: *The National Income and Its Purchasing Power* (New York, 1930), pp. 152-153.

[5] John Maurice CLARK: *The Costs of the World War to the American People* (New Haven, 1931), p. 159.

[6] *Ibid.*, pp. 152-159.

[7] Cf. J. H. RICHARDSON: "Some Aspects of Recent Wage Movements and Tendencies in Various Countries", in *International Labour Review*, Vol. XVII, No. 2, Feb. 1928, and L. ACHNER: "Entlohnung der qualifizierten Arbeit vor und nach dem Kriege", in *Allgemeines Statistisches Archiv*, 1928.

[8] For examples see Henry CLAY: *op. cit.*, pp. 45-6; A. L. BOWLEY: *Prices and Wages in the United Kingdom, 1914-1920* (Oxford, 1921), p. 99; William OUALID and Charles PICQUENARD: *op. cit.*, pp. 231, 265, etc.; Lucien MARCH:

more than a bare living wage, was less in need of an increase, it was held, than his lower-paid colleague; and in any case the cost of necessaries and consequently the increase in that cost were much the same for both. Equal increases to skilled and unskilled workers left the absolute margin between their rates unchanged but brought the unskilled rate relatively nearer to the skilled; and the greater the increase as cost of living rose, the greater the reduction in the relative margin. Not infrequently, however, the cost-of-living bonuses were actually smaller for skilled workers than for unskilled[1]; and in many cases the skilled worker or the worker whose ordinary wage exceeded a certain sum received no such bonus at all.[2]

Less general in their influence but even more drastic in their effect on margins in the industries concerned were the changes in the scale and technique of war material production, which led to enormous increases in the earnings of certain classes of semi-skilled and unskilled workers. Some of the most striking instances of the disparities which resulted from such changes are to be found in the records of British experience during 1914-18.[3] In the autumn of 1915, as a means of securing trade union consent to the widespread introduction of piece work, an undertaking was given by the Minister of Munitions that piece rates, once fixed, would not be cut. Contracts for the production of large quantities of munitions were let to many firms with no previous experience in such work and in fixing their piece rates these firms had to rely on guess-work or on the

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op. cit., pp. 280-281; D. T. SAWKINS: *The Living Wage in Australia* (Melbourne, 1933), p. 60; NEW ZEALAND DEPARTMENT OF LABOUR: *Awards, Recommendations, Agreements, etc., made under the Industrial Conciliation and Arbitration Act, and the Labour Disputes Investigation Act*, Vol. XIX, 1918, pp. 1061-1062, and Vol. XXIII, pp. 334 and following; and E. J. RICHES: "Conflicts of Principle in Wage Regulation in New Zealand", in *Economica*, Vol. V (new series), No. 19, August 1938, p. 321.

[1] Cf. William OUALID and Charles PICQUENARD: *op. cit.*, pp. 233-240; A. L. BOWLEY: *op. cit.*, p. 97; John Maurice CLARK: *op. cit.*, p. 160; New Zealand *Awards*, Vol. XVI, pp. 431 and 700, Vol. XVII, pp. 419 and 960, and Vol. XVIII, pp. 70-71; and D. T. SAWKINS: *op. cit.*, pp. 60-61.

[2] Cf. William OUALID and Charles PICQUENARD: *op. cit.*, pp. 234 and 239-240; New Zealand *Awards*, Vol. XVI, pp. 337 and 487, and Vol. XVII, pp. 418 and 960; and D. T. SAWKINS: *op. cit.*, p. 61.

[3] For the classic accounts of this experience see Humbert WOLFE: *op. cit.*, pp. 263 and following; and Henry CLAY: *op. cit.*, pp. 34 and 42 and following. For a reference to similar disparities in France see William OUALID and Charles PICQUENARD: *op. cit.*, p. 175.

advice given to them by the old armament firms. The latter, however, "had based their prices on the comparatively leisurely and extremely limited pre-war production of a shell far more complicated than the one evolved during the war. These prices pre-war had yielded fair average earnings, but when they were applied practically without alteration to an entirely different type of production, they produced earnings for much less skilled work twice or three times and even four times as great as those derived from the same price lists before the War. Instances began to pour in from all parts of the country of earnings by unskilled men varying from £5 to £9. But the pledge made the Ministry powerless to intervene. Workmen had been assured that rates would not be cut, and the failure to honour that assurance would, it was felt, strike a blow at the whole system of payment by results."[1] Skilled workers, on the other hand, kept on time wages because their work was too varied to be placed on any system of payment by results, received no such increase. "During 1916 the skilled workers—supervisers, tool-room hands, setters-up and millwrights, the nature of whose duties made it difficult for them to work piece work — grew increasingly restless as the earnings of unskilled newcomers on piece work began to approach and then far to surpass their own."[2] In Sheffield, for example, the earnings of skilled men were about half of those of unskilled machine minders. "The position was further aggravated by the granting of flat war bonuses for both classes, thus further obscuring the distinction between the skilled and the unskilled."[3] Finally an attempt was made to remedy the skilled worker's grievance by granting a bonus of 12½ per cent. on earnings to all fully-skilled time workers in the engineering and foundry industries. Very soon it became apparent that the line of demarcation thus drawn could not be defended. "Almost immediately there was a demand for an extension of the bonus to skilled time-workers in the shipyards; a similar demand followed from unskilled time-workers, who were equally prevented from enjoying the advantages of piecework and had much less adequate time-wages than the skilled men. It proved impossible to resist these claims, and the bonus became a general time-workers' bonus in engineering and shipbuilding. Now, although the skilled time-

[1] Humbert WOLFE: *op. cit.*, p. 265.

[2] *Ibid.*, p. 270. Cf. also Edwin CANNAN: "Industrial Unrest", in *Economic Journal*, Vol. XXVII, No. 108, Dec. 1917, pp. 457-458

[3] Humbert WOLFE: *op. cit.*, p. 270.

workers' grievance was a real grievance, it is not to be inferred that time-workers in general were underpaid, nor that unduly high earnings were the rule on systems of payment by results. A general advance to time-workers, therefore, disturbed the general relation between time and piece earnings, and led to a demand for a corresponding advance in piece-rates."[1] In the end this too was granted. "Thus the wheel had swung full circle, and the relative positions of time-workers and piece-workers were restored."[2] The skilled worker's grievance remained but "it was a part of the towering complexities of the wages situation that for a grievance so obvious no remedy could be found".[3]

Closely related in their origin to the skilled worker's grievance were many of the problems of women's wages. The shortage of skilled workers and the adoption of mass production methods in the making of munitions, which led to a great increase in the proportion of semi-skilled workers and to the problems of wage regulation just outlined, led also to the employment of large numbers of women both on new types of production and on work which was customarily regarded as "men's work". As the newly-recruited women workers were unorganised and so unable to secure fair rates of wages by collective bargaining and as the men's trade unions in any case insisted on the fixing of adequate wages as a condition of relaxing demarcation rules and admitting women to men's work, State regulation of women's wages was speedily introduced. In Great Britain, as in France, the principle generally adopted was that of "equal pay for equal work", a principle which proved difficult to interpret and apply in practice. In France the rule prescribed that for identical work performed under the same conditions by men and women workers the women's piece rate must not be less than the men's; but if a part of the work (such as setting up of machines) was not done by the women, or if the latter had to be assisted by men, the total price paid for the women's work, plus the overhead expenses it involved, must be not less than the price paid to men who performed the whole of the work in question.[4] In Great Britain, where the regulation of wages was limited at first to women engaged in men's work, the rule adopted was more generous. In the case of women employed on piece work or premium bonus it provided

[1] Henry CLAY: *op. cit.*, pp. 45-46.
[2] *Ibid.*, p. 46.
[3] Humbert WOLFE: *op. cit.*, p. 273.
[4] William OUALID and Charles PICQUENARD: *op. cit.*, p. 192.

merely that they were to be paid the piece rates or bonus times customarily paid to men on the job; while women employed at time rates on "work customarily performed by fully-skilled tradesmen" were to be paid the time rate of such tradesmen. In order, however, to ensure that the "equal pay" was not being made for work which was in effect unequal, as well as to keep down costs, it was soon found necessary to amend the rule for women on time work to allow of the payment of lower rates to all who did not do the setting-up customarily done by fully-skilled tradesmen or who required more supervision than such men. Difficulties of interpretation of the kind which this amendment was designed to solve constituted only a part of the problems raised by the regulation of women's wages and the limiting of this regulation to women engaged in men's work. As a result of the trade unions' insistence that the rates paid should be such as would not affect adversely the wages of men, women engaged in men's work who were newcomers to industry were soon earning wages considerably higher than experienced women workers engaged in women's work. "It was an almost intolerable grievance for women also engaged on munitions but on work done previously by women, and often skilled at that work, not only to see new recruits earning far higher wages than their own, but themselves, as the cost of living rose, to suffer hardship because, quite apart from comparison, their rates were inadequate."[1] To permit the continuance of such anomalies would have been to court industrial unrest and the Government found itself obliged to extend its control of wages to women engaged in women's work.

Recent Experience

Before turning from the records of 1914-18 to those of the present war it may be of interest to note certain general considerations which suggest that some at least of the difficulties which arose in the field of relative wages 25 years ago may prove less acute this time. In the first place, the lessons of 1914-18 have not been entirely forgotten. Consequently, though modern mechanised warfare involves an enormously increased demand for armaments, and the production of planes, tanks, and guns, which bulk so large in this demand, requires, at least in its initial stages, a greater proportion of highly skilled labour than the typical munition work of

[1] Humbert Wolfe: *op. cit.*, p. 289.

1914-18, the strain on the supply of skilled workers and on skilled wage-rates should be offset at least in part by precautions based on past experience. Thus the need for careful organisation of a nation's labour supply is now well recognised and every effort is made to conserve scarce types of skill by avoiding the non-selective recruiting and conscription which accentuated labour shortages and wage movements during the last war. Moreover methods of training of skilled workers have probably improved, and numbers of workers already semi-skilled are available for training, so that if adequate training facilities are provided it should be possible in time to meet the increased demand even for such highly skilled workers as machinists, tool-makers, pattern-makers, and instrument-makers. Furthermore, every effort is being made to utilise as economically and efficiently as possible the limited supplies of skilled labour already available: skilled engineers, for example, are reserved as far as possible for such tasks as tool-making and tool-setting, while routine production work is carried out by semi-skilled workers operating special-purpose and semi-automatic machine tools.

Secondly, the technique of mass production, which wrought such revolutionary changes then, is now more general and the problems which its introduction and application involve are better understood. As a result of the widespread adoption of automatic machinery the distinction between skilled and unskilled is less definite and a large proportion of workers possess the experience and the limited degree of skill needed to enable them to adapt themselves rapidly to mass production work in almost any industry. Problems of wage fixing for workers in new or expanded production should consequently prove less difficult than in 1914-18; and in any case the experience gained then and since in the art of rate setting should enable such problems as do arise to be solved more easily. For somewhat similar reasons the special problems of women's wages may also prove less difficult. There are many more customary rates of pay for women's work, and minimum rates set by collective agreements or by mimimum wage fixing authorities, than there were 25 years ago; the principle of equal pay for equal work—provided the work is in fact equal—is likely to be more easily accepted; and the prejudice against women workers, which made the reasonable settlement of many of the problems involved in their employment difficult

in 1914-18, is a generation less intense.[1] Finally, there is in practically all the countries concerned a more developed mechanism for negotiating or regulating wages; and there are probably fewer and smaller inter-regional and inter-industrial disparities in wage rates than there were in 1914. The last war saw a great growth of trade union organisation, particularly among the less skilled groups of workers, and with it a more uniform and systematic wage structure; and in the succeeding period there has been a vast extension of wage fixing machinery. As a result some of the problems which confronted those responsible for improvising wage controls during the last war are now non-existent or less acute; while many of the essential components of a system of control, should such be needed, lie ready to hand.

Though the information available concerning actual wage changes since the outbreak of the present war is fragmentary and incomplete, it includes many instances of changes in relative wage rates in different industries and occupations. In France and in Germany, where wage rates are subject to strict control, such changes as have occurred constitute exceptions to policies the general aim of which in this respect appears to be to maintain pre-war relationships. In Great Britain, however, no such central control of wage rates exists (though, as will be seen later, certain limited controls have recently been introduced) and the many changes in relative wages which have been registered must be regarded as a natural consequence of the radical changes in the conditions of demand and supply for different types of labour.

In addition to such changes in wage rates there have been considerable changes in relative earnings, consequent on increased activity and overtime in certain industries and opposite

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[1] Cf. *The Economist*, 3 Feb. 1940, p. 190. It should however be noted, as against the favourable factors listed above, first that in such industries as metals, light engineering, textiles, and chemicals, for which women are likely to be recruited, the differences between the rates of pay of men and women are still very great; and, second, that the numbers of women who may have to be brought into industry, and consequently the extent to which the dilution of male by female labour may have to be carried, may be much greater than in 1914-18. In Great Britain, for example, it has been suggested that as many as 4 million women may have to be brought in, as compared with 1.6 million in 1914-18. (Helen MAKOWER and H. W. ROBINSON: "Labour potential in war-time", in *Economic Journal*, Dec. 1939.)

conditions elsewhere.[1] It appears likely, moreover — though this must necessarily be a matter of conjecture — that such movements in relative earnings have been less dissimilar in the different countries than has been their experience in the matter of relative wage rates.

No comprehensive survey of recent changes can be attempted in the present paper but it may be useful to quote a few examples. In certain industries where work has become exceptionally arduous or dangerous as a result of war conditions increased wages have been conceded, either as a measure of equity or as a necessary inducement. Thus in France, Great Britain, and most neutral countries whose ships trade in the war zone, seamen have secured substantial wage increases or special risk bonuses.[2] In other cases the vital nature of the service rendered and the advisability of offering special inducements to ensure its full performance appear to have constituted the main reason for concessions granted. A case in point is that of German coal miners, who have been exempted from a general rule abolishing special rates of pay for overtime.[3]

In the great majority of cases, however, the factor most prominent in wage negotiations has been the rise in the cost of living due to war conditions. There is no doubt a tendency to over-rate the importance of this factor, to which both trade unions and employers sometimes find it convenient to ascribe wage increases whose real origin lies in the increased demand for labour. But its importance is none the less outstanding. In

[1] Thus in Great Britain an Enquiry conducted by the National Institute of Economic and Social Research, and covering 719,000 workers, showed increases in average earnings per head in different industries, for the period from 23 September 1939 to 16 March 1940, ranging from –0.5 per cent. in Shipbuilding and 2.2 per cent. in Food to 17.3 per cent. in Mining and 25.2 per cent. in Clothing. There were also marked differences in the experience of different age and sex groups: from March 1939 to March 1940 the earnings of females under 21 rose by 20.6 per cent., those of males over 21 by 16.6 per cent., those of females over 21 by 12.6 per cent., and those of males under 21 by 11.9 per cent. (*Economic Journal*, June-Sept. 1940, pp. 189-194).

Another enquiry, made in May and June 1940 under the auspices of the same Institute, showed that in a representative London borough "for every working-class family whose income had increased there were roughly three whose income had decreased and three whose income was the same" and in Coventry, with its marked arms boom, "nearly half had increased their income; of the rest, 32 per cent. had the same income as pre-war, 20 per cent. had less". (Charles MADGE: "War-time saving and spending: a district survey", in *Economic Journal*, June-Sept. 1940, p. 327.)

[2] For examples of such increases see *Industrial and Labour Information*, 2 Oct. 1939, p. 23; 23 Oct. 1939, p. 116; 13 Nov. 1939, p. 195; 1-8 Jan. 1940, p. 29; 22 Jan. 1940, p. 76; 5 Feb. 1940, p. 127; 12 Feb. 1940, p. 150; 19 Feb. 1940, p. 176; 11 March 1940, p. 250; 13 May 1940, p. 158.

[3] Cf. *Industrial and Labour Information*, 8 April 1940, p. 25.

all the countries in which systems of minimum wage regulation are in operation the authorities responsible for fixing minimum rates invariably attach great weight to changes in the cost of living, and in certain cases such changes lead to automatic adjustments in wage rates. Thus in Australia the wages of most workers have for years been linked by fixed margins to basic rates, the amounts of which are subject to periodical adjustment according to movements in the cost of living. And in New Zealand, though no such automatic adjustment takes place, the Court of Arbitration now has power to vary minimum wages by general order in all industries under its jurisdiction and is directed, when doing so, to take into account changes in the cost of living.[1] In the former case, since the absolute amounts of margins for skill are unaffected by cost-of-living adjustments, the increases in basic rates resulting from the wartime rise in living costs have the effect of reducing relative margins. In New Zealand, on the other hand, the only adjustment so far made under the Court's general power is an all-round increase of five per cent. which leaves relative wages unchanged.[2] In Italy margins were narrowed by a general adjustment in March 1940 which granted wage increases ranging from 10 per cent. for workers in the highest wage group to 15 per cent. for labourers.[3]

Apart from such cases of wage regulation the outstanding examples of adjustments based on cost of living are the sliding scale agreements.

In Great Britain, where even before the war a large number of collective agreements included sliding scale provisions, and in Belgium, where such provisions were in force in practically all industries, wage increases accrued automatically as cost of living rose; and since the war broke out the number of workers covered by such sliding scales has increased enormously. In Great Britain new agreements containing such provisions have been concluded in several industries which had nothing of the kind be-

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[1] The Rates of Wages Emergency Regulations, 1940, dated 16 May and 12 June 1940 (*Statutory Regulations*, 1940, numbers 86 and 116).

[2] In the case of State employees in New Zealand, however, the Government has granted a flat-rate increase (5s. a week to all employees of 18 years and over who earn not more than £335 a year—an amount equivalent to a little over five per cent. of the average wage of such employees) with the effect of reducing both absolute and relative margins between different grades (*The Standard*, Wellington, 19 September 1940, p. 1).

[3] *Il Sole*, 10 March 1940; *Il Lavoro Fascista*, 24 and 30 March 1940.

fore[1], and in Denmark, Sweden, and Norway, general agreements were reached late in 1939 or early in 1940 by the central organisations of workers and employers to apply sliding scales throughout most industries.

Most of the wage increases resulting from sliding scale arrangements have been the same in amount for workers in different grades of skill and this has meant, of course, a reduction in relative margins for skill. Thus in Denmark, although the trade unions sought at first to obtain a percentage bonus to offset the rise in the cost of living, the agreement finally reached, which was the most comprehensive ever concluded, provided for quarterly adjustments based on the cost of living index at a uniform rate for all men and at lower rates for women and young persons.[2] In Sweden and Norway general agreements concluded between the central organisations of employers and workers provided similarly for flat rate cost of living bonuses subject to periodical adjustment.[3] In Iceland the influence of the cost of living bonus in reducing proportionate margins for skill has been carried a stage further: unskilled and lower-paid workers are to receive a bonus equivalent to three-quarters of the rise in prices and higher-paid workers a smaller amount.[4] In Belgium, on the other hand, though the sliding scale arrangements previously in operation were considerably modified, the principle of proportionate as opposed to flat rate changes in wage rates was retained.

Where sliding scales are in general operation the relative positions of workers in the same wage groups in different industries remain as a rule unchanged, for the cost of living supplements are usually at uniform rates for all industries. In Sweden, however, the amounts of the supplements are to be determined separately for different undertakings or groups of undertakings in proportion to the average hourly earnings of all workers in these undertakings taken together[5], so that workers who belong to the same wage group but are in different industries, or even in

[1] Altogether it is estimated that nearly 3,000,000 workers are governed by such agreements. (*Labour*, July 1940, p. 521.)

[2] Cf. *Industrial and Labour Information*, 1-8 Jan. 1940, p. 3. The agreement was concluded in October 1939. Early in 1940, however, it came in for much criticism as a result of a marked rise in the cost-of-living index and in May, after the German occupation, legislation was introduced to suspend the operation of the agreement and to cancel the adjustment of wages to any index figure exceeding that of January 1940 (*Industria*, Stockholm, 8 June 1940).

[3] *Industrial and Labour Information*, 19 Feb. 1940, p. 158, and 25 March 1940, p. 284.

[4] *Ibid.*, 25 March 1940, p. 285.

[5] Both averages and supplements are, however, calculated separately for men and women workers.

different undertakings in the same industry, may find their wage rates rising (or falling, if the cost of living falls) at different rates. On the other hand, the fact that the cost of living supplement is proportionate to average earnings within each undertaking will mean that relative wages as between industries with different levels of wages will be less affected than they would be by a system such as that adopted in Denmark and in Norway. In Great Britain, where separate sliding scale agreements are in operation in each of a number of industries, there is considerable variation in the nature and working of the scales adopted. Among those which have come to the notice of the writer the wage increases provided for range from an equivalent of 2½d. a week for each rise of one point in the cost of living index to as much as 5d. a week; and the dates at which they come into effect also vary in different industries.

Where no sliding scale applies and wage increases have been negotiated independently the range of variation is still greater. In Great Britain increases ranging from 1s. to 15s. a week have been noted. Many of them take the form of a special cost of living or war bonus—a description which carries no necessary implication of uniformity but has the effect of leaving basic rates unchanged. The dates at which wage increases have come into force in different industries have varied considerably; during the first six months of the war at least, there were some millions of workers who received no increase at all; and there were a minority whose wages had actually been reduced. How many there are who are still in such a position it would be difficult to estimate, but that wide disparities in the experience of different groups still persist is not open to doubt.[1] As against this it should, however, be noted that considerable progress has been made in dealing with some of the problems that proved most baffling in 1914-18.

[1] In the industries for which statistics are regularly compiled by the Ministry of Labour and National Service, increases in weekly full-time wage rates were reported for some 4,750,000 workers during the period September to December 1939 and for some 7,160,000 in the first seven months of 1940. Some decreases were also reported but in most if not all cases these were offset by subsequent increases (cf. *Ministry of Labour Gazette*, Jan. and Aug. 1940). According to Professor A. L. Bowley's indexes the percentage increases in wage rates in 20 different trades from May 1939 to July 1940 ranged from zero (compositors) to 22½ (cotton) in industrial employments and 39 in agriculture (ROYAL ECONOMIC SOCIETY: *Memorandum No. 83: London and Cambridge Economic Service's Report on Current Economic Conditions*, July 1940, p. 8). The Enquiry conducted by the National Institute of Economic and Social Research recorded average increases in wage rates in 16 industrial groups ranging from 3.0 per cent. (distribution) to 12.2 per cent. (clothing), and revealed considerable differences in the experience of different age and sex groups within these industries (*Economic Journal*, June-Sept. 1940, p. 194).

Thus in the case of women's work a comprehensive agreement between the Amalgamated Engineering Union and the Engineering and Allied Employers' National Federation fixes the terms on which additional women may be taken into the engineering industry for the duration of the war. The general principle adopted is that, whoever does the work, "the rate for the job" will be paid. Where the women who enter the industry in this way are fully qualified, without further training and without additional supervision and assistance, to perform work hitherto recognised as work done by male labour, they are to be paid the rate and national bonus appropriate to the male labour they replace. In the case of women not already fully qualified, special rules will apply. Those who are employed on work hitherto done by boys or youths under 21 years of age will be paid according to the national agreed scale of wages for women workers or the boys' and youths' scale, whichever be the higher. Those who are employed on work hitherto done by adult men will have their wages calculated as follows: (*a*) for a probationary period of eight weeks they will be paid at the women's national schedule of time rate and bonus; (*b*) for the next twelve weeks they will receive the national women's basic rate increased by one-third of the difference between it and the basic rate of the men they replace, together with a bonus similarly increased; (*c*) for a further period of twelve weeks they are to be paid a basic rate equal to 75 per cent. of the basic rate of the men replaced, and similarly with the bonus; (*d*) thereafter where women are unable to carry out their work without additional supervision the rate and bonus shall be negotiable and paid according to the nature of the work and the ability displayed; but women who are able to carry out the work of men replaced, without additional supervision and assistance, will be given the basic rate and national bonus of the men replaced. Provision is made for payment by results in accordance with these arrangements.[1]

No less important, to judge by 1914-18, is a second agreement in the engineering industry which provides that skilled workers in the toolroom or skilled men transferred from production to tool making are to be guaranteed minimum earnings not less than the average earnings of the skilled production workers in the same factory for the same number of comparable

[1] *Ministry of Labour Gazette*, June 1940, p. 159, and *Labour* (official organ of the British Trades Union Congress General Council), July 1940, p. 530.

hours worked.[1] As a result, the old inequality between work "on the bench" and work "on the belt", which led to so much unrest during the last war, and was again proving troublesome, should at last be eliminated.

Finally a "uniformity agreement" concluded, like the two just outlined, under the leadership of the Minister of Labour and National Service, Mr. Ernest Bevin, provides that for the period of the war workers in building and in civil engineering engaged on Government contracts are to have equal rates of pay and similar working hours. In this case also, the new arrangement should serve to straighten out difficulties of long standing and remove a persistent cause of unrest.[2]

The Problem of Control

It is clear from even the limited information now available that many of those changes in relative wage rates which general considerations and past experience would lead one to expect in wartime have in fact been taking place during the past year. Whether they have had any appreciable effect on morale or willingness to work it would be more difficult to discover; but in any country which values social justice and seeks the willing co-operation of wage earners in its war effort the possibility of such repercussions should constitute a strong incentive to the organisations and authorities concerned with wage policy to study closely the character and consequences of wage changes.

To stress this aspect of the matter is not of course to suggest that all changes in relative wages are undesirable, nor even that all changes due solely to war conditions should be so regarded. The structure of wage rates, though normally stable, is never wholly rigid: changes are always taking place in the relative position of some industries and occupations and some of the changes which have occurred in recent months would have come in any case. Of the remainder, some no doubt have merely taken place rather sooner than they would have done in peace-time. The most important, however, are those which are directly and wholly due to war conditions. Some of these, such as the rise in the relative wages of seamen, are due to a change in the nature of the work, which has become more arduous or dangerous. Others are due to the allowance in wage negotiations for rising costs of living. Finally, there are those which can be

[1] *Labour*, August 1940, p. 557; *A.E.U. Monthly Journal*, July 1940, p. 220.

[2] National Federation of Building Trades Operatives: *War-time Agreements negotiated for and on behalf of Building Trades Workers*, pp. 15-23; *The Evening News*, London, 15 July 1940; *The Manchester Guardian*, 16 July 1940.

traced directly to a suddenly increased demand for certain types of production and consequently for certain types of labour, together with a declining demand for others.

Each of these main types of changes in relative wages needs to be considered separately. Those that would have occurred in any case and those that have merely been precipitated by the war can be dismissed very briefly: the hardship they involve is likely to be actually lessened by the increased needs for labour, and the increased opportunities for retraining and transfer to new occupations, which result from war demands. Those that are due to a change in the nature of the work will be readily accepted as justified on grounds of equity and efficiency.

The decline in margins for skill due to uniform or progressively declining cost of living supplements is in a somewhat different class. As the sacrifices imposed by war increase it is both desirable and inevitable that they should be imposed in larger measure on those best able to bear them and tempered to those who have least to spare. In the general impoverishment which war involves some reduction of margins for skill can scarcely be avoided. But there are limits beyond which such a reduction cannot be carried without serious risk to industrial harmony and efficiency.

The final group of changes in relative wages—those due to radical changes in the relative demand for different types of labour—presents one of the most difficult problems of wartime wages policy. In considering this group it is important to remember that a rise in the relative wages of those classes of workers who are in most demand serves at once as a stimulus to employers to use such labour efficiently and economically, as an encouragement to the workers concerned to put forth their best efforts, and as an inducement to all other workers who can qualify for the work in question to take it up. At the same time, a fall in the relative wages of other groups of workers may encourage employers in war industries so to organise their operations as to be able to employ more of such workers and may encourage the workers concerned to move into industries and occupations in which their services will be of greater value both to employers and to the community as a whole. Changes in relative wage rates and in relative earnings are thus one of the means of bringing about that change-over from peace-time production to the production of goods essential for war purposes, which constitutes the central problem of wartime economics.

To the extent, therefore, that changes in relative wages serve this purpose, and do so more efficiently than any practicable alternative, they must be regarded as justified. Such friction and dissatisfaction as they may cause in the process are a part of the price that must be paid for national defence. If, however, the changes proceed beyond the point at which their stimulus to effort and to efficiency in the utilisation of labour and other resources has reached its economical maximum, this justification no longer holds. The disadvantages of further change increase progressively and it becomes desirable to rely to a greater extent on other means of organising the supply and distribution of labour—on such measures, for example, as improved facilities for the transfer of workers from one industry or locality to another, "dilution" in its various forms, and schemes for speeding up the training of skilled workers. If, in spite of such measures, changes in relative wages become further accentuated, to the point of provoking serious unrest among workers whose position is worsened, or diminishing incentive among those whose earnings have increased, or raising unduly the cost of war supplies, a case arises for some deliberate limitation.

To limit changes in relative wage rates which are due to changes in demand for labour it is necessary to check the upward movement of wages in those industries and occupations whose services are in most demand; for the only alternative—to raise wages where demand is weak—would increase the incidence of unemployment among workers in the less fortunate groups and thus in all probability leave them worse off than before.[1] If such a check—which may take the form either of a direct limitation of wage rates or of restrictions on the movement of workers, on competitive bidding by employers, and on the use of the strike weapon—can be applied by mutual consent as a result of negotiations between the Government and the parties concerned, the problem is solved; and it goes without saying that in this, as in all other matters of working conditions, the method of negotiation and voluntary agreement should have first preference.

That such agreement is not beyond the range of possible achievement is shown by recent experience in Great Britain. Already in April 1940, a committee consisting of a chairman

[1] There are of course other possible ways of improving the position of these groups (for example, the provision of family allowances) but these fall outside the scope of the present paper.

and representatives of workers' and employers' organisations agreed unanimously to the making of an Order[1] prohibiting employers in the building and civil engineering industries from advertising for bricklayers, carpenters, or joiners, without the consent of the Minister of Labour and National Service. And later, at a time of national danger and under the leadership of a Minister drawn from their own ranks and enjoying their full confidence, the British trade unions agreed to an Order[2] making it an offence for any employer to engage a man normally engaged in coal-mining or in agriculture, forestry, or horticulture, except for work in those trades, or for an employer in the engineering, building, or civil engineering contracting industries to engage a man otherwise than through a Local Office of the Ministry of Labour and National Service; and to a further Order[3] prohibiting strikes and lockouts and providing for the compulsory arbitration of all trade disputes which cannot be settled by agreement through the ordinary machinery of negotiation.

It would be difficult to exaggerate the importance of the two last-mentioned of these Orders. The first, known as the "no poaching" Order, is designed to end the scramble for labour in the engineering industry and to prevent the movement of workers away from two other essential industries. The second, by making arbitration compulsory, introduces a principle to which the trade unions have hitherto been consistently opposed. In each case, the workers' acceptance (for the duration of the war) of the new regulations involves a renunciation of opportunities to press for wage increases or to move to higher-paid jobs—a very real sacrifice at such a time[4]; and if the Orders are effectively applied they will constitute an important check both on the general level of wages and on the movement of relative rates in different trades. Relative rates may be affected, moreover, by the policy of the National Arbitration Tribunal. Though

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[1] The Control of Employment (Advertisements) Order, 1940, effective 24 April 1940. For details see *Ministry of Labour Gazette*, May 1940, and *Industrial and Labour Information*, 13 May 1940, p. 153.

[2] The Undertakings (Restriction on Engagement) Order, 1940, effective 10 June 1940. Cf. *Ministry of Labour Gazette*, June 1940, pp. 156 and 181, and July 1940, p. 185, and *Labour*, July 1940, p. 523.

[3] The Conditions of Employment and National Arbitration Order, 1940, effective 25 July 1940. Cf. *Ministry of Labour Gazette*, Aug. 1940, p. 210.

[4] Farm workers have received some compensation in the form of a national minimum wage of 48s. a week. Cf. *Ministry of Labour Gazette*, May 1940, p. 129; June, p. 158; July, p. 188; and Aug., p. 214.

no direction is given as to the principles to be followed in settling disputes, it is at least possible that this tribunal, like other similar bodies, may attach importance to the notion of a living wage and seek in consequence to maintain as far as possible the purchasing power of lower-paid workers while conceding much smaller advances than unrestricted competition would afford to workers whose labour is in keen demand. However this may be, it is clear that with strikes prohibited and the movement of labour greatly restricted, the weapons and safeguards on which the worker ordinarily depends are greatly weakened and a major part of the responsibility for determining the relative rates of wages in different industries and occupations must fall upon the Arbitration Tribunal.

Important as these measures may be, the checks on wage movements which they introduce are still indirect in character. Even the rates of wages to be fixed by the Tribunal will be minimum rates and though there will be powerful forces operating to make them standard rates as well, there is as yet no legal obstacle to the payment by individual employers of higher rates. In this respect the position in Great Britain is similar to that in a number of the other countries that are at war.[1] In certain countries, however, maximum as well as minimum rates of wages have been fixed. Thus in France, under the law of 10 November 1939, the average wages paid in any undertaking engaged on national defence work to workers in the same occupational group may not, hours and output being equal, exceed the average wage of 1 September 1939, except in cases where the Minister of Labour and the Minister directly concerned have jointly decided to make some change; and in any case the rates approved must not be exceeded.[2] In Germany an Order of 4 September 1939 and regulations of 12 October 1939 provide for the fixing of maximum limits for wages and salaries in all occupations and prohibit any increase of wages without special authorisation.[3] In Japan, under Orders of 16 October

[1] For information as to the measures taken in other countries to prevent strikes, or to control the engagement of scarce classes of workers or limit in other ways the competition of employers for their services, reference may be made to the *International Labour Review*, *Industrial and Labour Information*, and the United States *Monthly Labor Review*.

[2] An English translation of this law will be supplied by the International Labour Office on request.

[3] For an English translation of the wage provisions of the Order of 4 September 1939 see I.L.O.: *Legislative Series*, 1939—Ger. 8, and for a note on the regulations of 12 October see *Industrial and Labour Information*, 27 Nov. 1939, p. 245. Cf. also *Reichsarbeitsblatt*, 5 March 1940, and *Monthly Labor Review*, June 1940, p. 1374.

1939, wages and salaries are stabilised at the levels of 18 September 1939 and increases are permitted only in special cases and with official authorisation.[1] Little information is available as to how these controls have worked in practice or as to the extent to which it has been found necessary to allow exceptions to the rigid stabilisation originally aimed at. Two exceptions—affecting seamen in France and miners in Germany—have however been mentioned above; and in Japan the hardship caused by rising costs of living has led to the introduction of family allowances to supplement low wages.[2]

Though the setting of a "ceiling" to wages has been advocated in certain circles in Great Britain, and the Minister of Labour and National Service has been empowered[3] to require the performance of services by any person "upon such terms as to remuneration" as he may direct—a provision which would apparently permit the fixing of maximum as well as minimum wages—there is no indication that the fixing of maximum rates is seriously contemplated as yet either in Great Britain or in any belligerent country other than the three already mentioned. Even should the rates of wages current in certain trades rise to levels commonly regarded as unreasonable it is by no means certain that other countries will follow the example of France or Germany. Apart from the fact that intervention at any single point in the system of wage rates is bound to have widespread repercussions and may eventually involve the regulating authority in all the problems of general wage control, it is clear from the experience of 1914-18 that any prohibition of wage increases for special groups of workers is likely to be bitterly resented, and unless it is accompanied by thorough-going control of engagements and dismissals it is likely to be ineffective. Since the workers whose opposition is thus aroused will be among those whose services are indispensable to the prosecution of the war any decline in their willingness to work will be a serious matter; and unrest to the point of stoppage or go-slow may assume the dimensions of disaster. Clearly the case for direct limitation of wages must be very strong to justify the taking of such risks.

Even the more indirect types of limitation, such as have

[1] Cf. *Industrial and Labour Information*, 13 May 1940, p. 138.

[2] *Ibid.*, p. 139.

[3] By an Order in Council of 22 May 1940 made under the Emergency Powers (Defence) Acts, 1939 and 1940. Cf. *Ministry of Labour Gazette*, June 1940, pp. 156 and 179.

been adopted in Great Britain and in certain other countries, are apt to provoke some opposition. To minimise the dangers involved, and to ensure maximum output, it is important that the reasons justifying any attempt to control wartime movements in relative wages be understood and accepted not merely by national trade union leaders but by the rank and file as well. Essentially these reasons are of two kinds, both closely connected. There are first the considerations of justice as between different groups within the community; and, second, the effects on productive efficiency if this justice is not secured. Changes in customary differentials appear at any time as an injustice to those who find themselves worse off, and are sometimes felt to be such even by those who gain; and this is so even if the changes involve no absolute decline in real income in either group. In wartime the sense of injustice is likely to be greater if only because changes in relative wages will involve more often an absolute and not merely a relative worsening of the position of the less fortunate groups. The reason for this is both simple and ineluctable. To maximise war effort, the quantity of goods produced for consumption must be limited. If, however, the incomes of one group of persons are increased while those of another remain constant or decline, the former will be able to secure a greater share of the diminished supply of goods, while the share left for the latter will be smaller both absolutely and in proportion. Injustice will be not merely felt, but real. Dissatisfaction and unrest are bound to follow, with effects on efficiency and output which may prove serious. Even so, any attempt to control relative wages may cost more than it is worth unless both the disparities of wage rates and the number of workers involved are really great. If they are, some measure of control may become inevitable.

Whether such a stage will be reached in countries which have not yet adopted even indirect controls remains to be seen; and it is still too soon to say whether the measures already enforced in such countries as Great Britain will prove adequate to their purpose. The possibility however that new measures designed to limit wartime movements in relative wages may be under consideration warrants a brief reference, in closing, to the main safeguards which experience suggests to be desirable. There is of course room for wide variation in the details of control, since these must depend to a large extent on factors peculiar to each country concerned: in particular, on such mat-

ters as the character of trade union organisation, the methods by which wages are ordinarily determined, and the extent to which war needs limit production for civilian use. Certain general desiderata may, however, be briefly formulated. Control, if it is to be equitable, must be comprehensive; and it must form part of a general plan of war finance and war production which takes fairly into account the situation of all sections of the community. The sacrifices it imposes must be for the benefit, not of receivers of profits, nor of taxpayers who can better afford them than the workers concerned, but of the community as a whole. To be effective it must be accompanied by checks on undue competition by employers for workers and on undue movement of workers from place to place or from firm to firm.[1] To be workable it must be efficiently and flexibly administered: for example, there must be speedy local investigation and settlement of disputes as they arise, on the basis of a policy that is centrally determined.[2] Finally, to secure the willing co-operation of those concerned and to ensure that their legitimate interests are properly safeguarded there must be an effective participation of trade union representatives at all stages, both in the determination of general policy and in its detailed application.

[1] Cf. Henry CLAY: *op. cit.*, pp. 64-67.
[2] *Ibid.*, pp. 62-64.

Control of Food Prices[1]

by

A. S. J. Baster

Objectives and Limitations of Food Price Control

In war it is necessary to economise the national resources so that they are used to satisfy the national needs with the least possible waste. Broadly speaking, an important part of this function is performed in peace-time by adjustments of prices which move productive resources and finished goods into the channels of production and consumption. In peace-time, the system does not work in a satisfactory way, notably because of inequalities in the distribution of purchasing power. And in wartime, particularly in regard to food prices, its shortcomings are in most countries generally thought to require correction by Government controls.

The aims of these controls have not been the same in every country and at all times. In the war of 1914-1918, for example, Mr. Hoover stated that his duties as Food Controller in the United States were "to so guide the trade in the fundamental food commodities as to eliminate vicious speculation, extortion and wasteful practices and to stabilise prices in the essential staples".[2] The European belligerents, on the other hand, took a broader view. Thus, the duty of the British Food Controller was "to regulate the supply and consumption of food in such a manner as he thinks best for maintaining a proper supply of food, and to take such steps as he thinks best for encouraging the production of food".[3] At present the aims of food price controls are in general to ensure

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[1] This article was written in April 1940.

[2] S. Litman: *Prices and Price Control in Great Britain and the United States during the World War* (New York, 1920), p. 210.

[3] W. H. Beveridge: *British Food Control*, Appendix J.

that the armies are fed as cheaply as possible, that every citizen gets at least enough to maintain his health and efficiency, regardless of his earned income, and that no "profiteering" in food takes place. In the course of this work, certain problems have been encountered which appear more prominently in the present war than in 1914-1918, e.g., the prevention of "inflation" of the price level leading to demands for higher money wages, and the diversion of all possible economic resources from the production of non-essential foods to more important war uses. But the basic problem remains essentially the same as in the last war, and in at least one country the legislation is the same.[1] It presents itself with almost equal urgency to neutrals and belligerents alike. This article attempts to set out the problem and to discuss some social and economic implications of the solutions adopted in various countries against the background of the experience of 1914-1918.

Whatever their published aims, wartime food price control schemes have to be based ultimately on the relation between the nutritional needs of the human organism and the physical resources of the environment in which the organism has to live. Controlling food prices is in practice not merely a problem of keeping prices low enough so that even the poorest can get enough to eat, but at bottom it is a problem of providing each person with the cheapest combination of chemical elements in food necessary to sustain his activity. Ultimately this involves, on the one hand, an elaborate classification of consumers according to age, sex, state of health, and work performed (as in the German scheme), and, on the other hand, the most economical use of the national resources to produce the food required.[2] The amount of resources made available by the Government for food production and importation determines the point to which it is necessary to "economise" in the above sense. The technical facts of nutrition determine the limiting conditions in which this economising must be carried out.

From this point of view, many food consumption habits which may be acceptable enough in peace-time are seen to be a source of much waste in the conversion of physical resources into energy when a war emergency occurs. Thus, in war, it is generally found more economical to feed grains direct to human beings than to feed them to beef animals and sell the resulting meat for human

[1] The Canadian Government has set up a War-time Prices and Trade Board under powers contained in the War-time Measures Act of 1914, which has never been repealed.

[2] This includes the reduction of waste in consumption—a point which may be of importance in countries with a relatively high standard of living in peace-time.

consumption. For a given calorie yield, the production of beef in fact requires about three times as much fodder as the production of milk, and twice as much fodder as the production of veal. This is why, in England during the last war, the policy adopted in 1917 was to fix very high cattle prices with a gradual reduction extending over several months, in the hope that this would bring about a drastic cut in herds and free more cereals for bread production. In Germany, on the other hand, the encouragement of bread cereals at the expense of sugar beet was perhaps carried too far, because sugar is a much higher calorie producer than bread[1], and beet residues are available as an important cattle food. The calorie yield of pig meat is much greater than that of the same weight of grain fed to the pigs. In the United States, therefore, the Food Administration during the last war aimed at keeping corn prices low enough to encourage farmers to feed corn to pigs. In most belligerent countries butter prices were fixed so low that milk was either consumed fresh or turned into cheese, and consequently acute butter shortages developed, which seem likely to be repeated at present for the same reason.[2]

Developments in bio-chemistry have shown the danger of too much emphasis on calorie measures of adequate nutrition. In particular, the category of "protective" as distinct from mere "energy-bearing" foods has set new aims in nutrition policy.

Price controls must be guided by military considerations as well as by the technical facts of nutrition. The former, unlike the latter, differ in different countries. In wartime especially, the means of procuring food supplies vary considerably even between neighbouring countries because they depend on such considerations as the availability of foreign or overseas markets by safe routes, the safe storage of stocks, the degree of self-sufficiency in production, the need for man-power in the armies, the vulnerability of ports and transport systems to air attacks, and the difficulties of food distribution to evacuated populations. The procedure of price control actually adopted has therefore differed much in practice. France, for example, with self-sufficient food supplies relatively safe from military attack, operated price controls during the last war mainly to keep down the cost of living. In Germany, prices were kept down partly to demonstrate the ineffectiveness of the Allied block-

[1] SKALWEIT: *Die Deutsche Kriegsernaehrungswirtschaft* (Stuttgart, 1927), p. 64.

[2] This however, is not so important in view of the recent developments in vitamised margarine.

ade.[1] The problem of the British Food Controller was more complicated. The heavy inroads on tonnage made by the enemy's submarine campaign in 1917 restricted shipping services severely for Australian and New Zealand supplies and caused the Controller to favour high prices for home-produced meat and cereals in order to expand home production as much as possible, though there was severe pressure from consumers to keep down the cost of living. The shipping difficulties and urgent military needs in Europe led the President of the United States in 1917 to guarantee a minimum price for wheat producers which was even higher than that in most of the belligerent European countries at that time[2]; and the U. S. Food Administration concentrated on increasing the American pig population because no other fat-producing food can be increased more quickly and the military situation was then critical.

The need for imported supplies of food and feeding stuffs is doubtless of less military importance to the present belligerents. British sugar supplies, for example, two-thirds of which came from Germany and Austria-Hungary in 1914, proved a weak spot in the food control system during the last war, and the price of sugar rose in 1915-1916 to three times the level reached by other foods; but during 1938 more than one-quarter of the total consumption was produced at home and one-half was imported from Empire countries, a negligible quantity coming from Europe. Similarly, a lack of fat-bearing foods and the dependence of German livestock upon imported foods was an important military problem for Germany in 1914, and the controls had eventually to be based on a reduction in the pig population of 33⅓ per cent. and in the number of milch cows of 10 per cent., in order to do away with the need for imported foods. Since 1936 livestock censuses show a decline due principally to foot and mouth disease, but no drastic programme of stock-slaughtering is yet foreshadowed and the recent considerable increases in the acreage of barley and oats suggest that it may not be necessary. The most striking shortcomings of the national food production have to some extent been remedied by special measures in many countries now in the war area. But it would be foolish to lose sight of the fact that in 1938 self-sufficiency was still a remote ideal for those countries which had failed to attain it in 1913. Germany, for example, still imported one-half of her requirements of edible fats and Britain four-fifths of her requirements of wheat.

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[1] SKALWEIT: *op. cit.*, p. 141.

[2] W. L. DUFFUS: "Government Control of the Wheat Trade", in *American Economic Review*, March 1918, p. 76.

It is thus clear that although at first sight the control of food prices seems a relatively simple matter, yet in practice the fixing of any single price is likely to be a compromise between the possibly conflicting considerations of nutrition policy and military necessity. Thus, certain prices may have to be fixed low enough to permit the poorest consumer to buy adequate supplies of the proper foods but high enough to enable the producers of marginal efficiency to contribute to the supply required; or again, high enough to force consumers to use substitutes more easily available in wartime but low enough to discourage any expansion of output.

At this point certain economic difficulties have to be considered. It is obvious that no single price can be fixed without careful definition of the product (all its grades being provided with appropriate price differentials) or without reference to possible repercussions on other parts of the price system. Experience shows that the latter fact has often been insufficiently appreciated by the controls when they are set up. In France, for example, wheat prices were fixed at the very low level of 32 francs per quintal in 1915 and backed up by the threat of military requisitions at that price. In consequence, farmers fed their wheat stocks to cattle and sold the meat at high prices, or shifted to oats, the price of which was not controlled at all. A great scarcity of wheat developed, and shortly afterwards the Government was driven to fix prices for oats, barley, rye, bran, and pollard as well. Maximum prices for pigs in Germany were at first so low that pigs were kept off the market and consumers were driven to beef, whose high (uncontrolled) price caused the slaughtering of many young and otherwise unsuitable beef animals and curtailment of the supply of milk and field fertilisers. For the crop year of 1917-1918 an attempt was made in Germany to introduce an elaborately balanced scheme of prices fixed for a large number of agricultural products simultaneously with the general object of maintaining agricultural production and discouraging the feeding of animals on any crop which could be used as human food. But the plan was thrown out of gear because one of its basic maximum prices—that for pigs—became inoperative when farmers chose to slaughter pigs for their own consumption instead of sending them to market.

The gradual and inevitable growth of controls over the whole range of food prices due to the unforeseen effects of the control of some of them is a marked characteristic of wartime experience. The British Wheat Commission, for instance, from its beginning in 1916 with the control of wheat and flour, was gradually driven to extend its powers over all substitute grains, including successively

maize, rye, barley, oats, peas, beans and pulse; and by the end of the war 94 per cent. of all British supplies of food and drink of whatever sort were subject to price-fixing orders made by the Ministry of Food. Relying on this experience, most food controls at present in operation have had a comprehensive scope from the beginning. Barely a month after the outbreak of the present war, food controls were in operation in England for cereals, feeding stuffs, tea, canned meat and fish, meat, dried fruits, sugar, butter, eggs, lard, potatoes and edible oils. By February 1940, 85 percent. (by value) of the total British imports of foodstuffs were being bought and sold by the Ministry of Food and all the others were subject to some degree of control by licensing.[1] In Germany all food prices have been subject to control since the Price Stop Order of 1936, in addition to special controls exercised by the Reich Food Office.

It is, moreover, useless to control prices at one stage only. If retail prices are fixed too high, needless profiteering occurs; if too low, retailers suffer losses, since shortages are reflected in higher prices which retailers must pay to middlemen and middlemen must pay to wholesalers. Thus, many controls during the last war began by fixing retail prices, then (as retail stocks failed to be replenished) wholesale prices, and finally all intermediate stages. Others fixed wholesale prices and retailers' margins. The tendency at present is to fix prices in all stages at once.

Joint products sometimes offer thorny problems. If canned milk prices are fixed too high, cheese will disappear. If egg prices are fixed too low eggs will be replaced by the other joint product, i.e., chicken meat, and the supply of eggs will cease. Cottonseed in the United States produces jointly linters (for munitions), vegetable oil and cattle food. In September 1918 the import of foreign vegetable oils depressed the price of cottonseed oil, and producers demanded a higher price for cottonseed meal (which threatened to drive up the prices of meat and milk) and for linters (which would have increased the cost of munitions to the War Industries Board). It was eventually decided that in order to keep meat prices down the prices of cottonseed oil and linters should be moved up, but in such a way as to maintain cottonseed output at normal. Such examples suggest that when the control moves from the problem of fixing one price for a particular reason to the problem of making the appropriate adjustments in all other relevant prices, its difficulties are enormously increased.

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[1] *The Times*, 15 February 1940.

This consideration largely explains a particular aim of food price control which has become very important since the outbreak of the present war. The tendency in almost every case has been for the controls to try to keep down food prices in order to forestall demands for higher money wages. The reason for this is that the position of various wage-earning groups relative to one another and relative to other groups in the community is bound to be altered by a general change in food price levels; and to make the appropriate adjustments in particular wage rates, so as to leave the relation of real incomes unaltered and the output of food products as before, is so difficult that disagreements are bound to arise.

Experience of such difficulties during the last war, when, in the period 1914-1920, the cost-of-living index number rose to 2½ times its 1914 average in England, and to four times its 1914 average in France, with wages lagging at some distance behind, has had a marked effect on present price policy. Apart from the injustices created between fixed money income receivers and others by a rising price level (especially important for receivers of money pensions and separation allowances during wartime), the danger is that once an upward movement in prices starts it will lead to increases in money wages which will defeat themselves as soon as they are added to costs and will thus start an indefinitely rising inflationist "spiral", threatening to lead ultimately to a monetary collapse.

The immediate shortcut solution of the problem is repressive price control aimed at maintaining prices as far as possible at their pre-war level. This is in fact the most important common characteristic of price control systems everywhere at present. It derives not from schemes of monetary management aimed at stabilising prices, exemplified for instance in Sweden since 1932, but from direct administrative controls over prices as practised in Germany on the widest scale for several years before the present war started. The first "price-stop" Decree was issued in Germany on 26 November 1936, all price increases being prohibited from 17 October 1936 except with official permission. This practice was followed in France, where the price-stop was based mostly on the prices of 1 September 1939, and in England, where the Prices of Goods Act set a permitted basic price at the level of 1 August 1939. It has also been adopted with a 1939 base in many other countries, though Japan used a "pre-incident" standard for domestic price controls until the Imperial Ordinance of 16 October 1939 fixed the stop at 18 September.

The administrative convenience of making business men themselves justify all price increases to the Government instead of making the Government directly responsible for particular prices is undoubtedly important; but in principle the effect is merely to shift the problem to the framing of conditions under which exceptions to the "stop" Decree may be allowed. Moreover, the success of the German system, which kept the retail food price index number practically stationary (apart from seasonal movements) from 1936-1939, is not necessarily decisive for policy in wartime when great and sudden changes in the conditions and sources of supply and demand may be expected. The German experiment was favoured by the marked drop in world prices which took place from the spring of 1937 and by the considerable scope for reduction which existed in certain cartel prices and traders' margins. In addition, the various agricultural trading boards (*Reichsstellen*) have exercised particular pressure on the staple food prices notably by means of subventions from the Treasury and from various industries. But, finally and most significantly, for long periods in Germany, even before 1939, control of the prices of two important food products, butter and meat, was accompanied by rationing of consumption.

German experience thus draws attention once more to a fact which became glaringly obvious in 1914-1918, namely that price-fixing is not an end in itself but is merely a method of bringing about changes in output and a redistribution of supplies. Price-fixing unaided is about as effective for this purpose (in the words of Stamp) as trying to control the temperature of a room by fixing the thermometer reading. In other words, given the fixed price, the fundamental problem still remains to call forth the economical production of foods in the quantities required and to guarantee a proper share therein to each consumer. The first involves the authorities in some responsibility for the profits and losses of producers, price control thus turning inevitably into profit control. The second calls for systematic rationing.

PROFITEERING

It is of course possible to enforce prices on producers at any level by imposing the death penalty on anyone who departs from them.[1] But it is clear that such a solution could not last long since,

[1] The crude form of price fixing in revolutionary France is an example of this. Hoarding was punishable by death and requisitions at the decreed maxima were made with great harshness. Trade consequently came to a standstill as merchants refused to renew their stocks and went out of business. (H. E. BOURNE: "Food Control in Revolutionary France", in *Journal of Political Economy*, February 1919.).

if the prices fixed did not cover prime costs, production would cease when the productive undertaking became insolvent, its machinery worn out and its treasury unable to pay its workmen and creditors. In practice, it is probable that in most countries drastic price regulation of this sort would soon prove ineffective, since no matter what price is fixed, food producers themselves can hardly be pressed to restrict their own consumption of food without their willingness to go on producing it for others being seriously affected. In the long run it is clear that the Government must either build up a fixed price system which ensures that producers at least cover their costs at the level of output required, or it must maintain the solvency of enterprises at that level by means of a system of taxes and subventions. In the last war Government buying prices were often deliberately fixed to produce high profits and a large output. This applies to the regime of guaranteed wheat prices in the United States and the policy adopted in England in 1918 of buying the potato output forward at a high guaranteed price. But selling prices to the public might be fixed deliberately low, the Government itself bearing the loss, as in the case of the British and French wheat subsidy schemes, under which imported cereals were issued to the mills at less than the price that the Government had paid for them and the mills (in the British plan) were in addition subsidised by an amount which enabled them to pass on cheap flour to the bakers. The present British scheme, under which approximately £1,150,000 a week is devoted to making good the losses incurred by the food control in selling flour, wheat, bacon and milk at low prices, is in the direct line of descent from the bread subsidy of 1914-1918; and the fund of 8 billion francs placed at the disposal of the French Ministry of Agriculture on the outbreak of the present war was apparently used for similar purposes. The British Chancellor of the Exchequer stated early in 1940 that in this way a rise of 12 points in the cost-of-living index number had been prevented.

Although low and uniform[1] food prices involve troublesome Government subsidies, prices which are allowed to rise high enough to cause producers' returns to exceed their costs are wasteful and

[1] A whole range of small taxes and subventions may be the inevitable accompaniment of the necessarily simplified technique of price control itself. In the last war price adjustments for different areas, different consumers, and different qualities of food, had to be drastically simplified, and standard qualities (as in Great Britain) of national controlled tea, standard margarine, and Government ale were sold over large areas at unvarying prices. The same principle is true in the so-called "pool" system operated at present by the Central Price Committee in Japan. The essential condition is that between the consumer and the producer the public treasury must stand ready to absorb the financial adjustments which this procedure involves.

needlessly disturbing to public morale. Of the two extreme positions most controls during a time of war scarcity find themselves in practice driven to the second, where they have to face the problem of profiteering.

Profiteering, loosely defined as making unusually large profits at a time of rapid price changes, is probably an inevitable accompaniment of private enterprise under war conditions, and the experience of the last war makes it seem doubtful whether it could ever be stamped out completely by Government action. Legal definition is difficult and administrative experience is disappointing. In England, for instance, the Profiteering Act of 1919 made it illegal to make a profit "which is in view of all the circumstances unreasonable". In the light of the experience of the Ministry of Food, Beveridge's comment seems apt: "The Profiteering Act was window-dressing. The organisation of the Ministry of Food to deal with the emergency was business."[1] The South African Act of 1921 was "to prevent the making of unreasonable profits on the sales of commodities". "Unreasonable profit" was described as "a profit which the Board of Control . . . declares to be under all the circumstances and conditions of the particular case an unreasonable profit" with due regard to average gross profits in the business during 1911-1913, interest on any increase of capital employed since then, and any increase in the domestic expenditure of the seller consequent on the increased cost of living. But the Act was never fully effective and was in force for a few months only. A somewhat more successful approach was to fix profit margins directly (and thus prices indirectly). Thus, in England retailers' margins in the last war were 2d. per lb. on margarine, 2½d. on meat and 3d. on bacon. In the United States in 1917 an effort was made to restrict the profits of meat packers to 2½ per cent. on sales and for the five largest packers 9 per cent. on investment. If stability of the trader's money income at the pre-war level is thought desirable[2] a fixed bonus per unit of sales (with adjustments for different levels of output) is a convenient way of assuring this, since sales in wartime are likely to be somewhat more stable than prices and costs. The difficulty is, however, to justify any guarantee of the stability of any particular form of income while fundamental economic conditions affecting other incomes are subject to sudden changes.

[1] W. H. BEVERIDGE: *op. cit.*, p. 289.

[2] As in the United Kingdom (Cf. W. H. BEVERIDGE: *op. cit.*, p. 177). Standard margins were laid down by the United States Food Administration in 1917 to produce the profits which "the dealer customarily enjoyed on the same commodity in the pre-war period on an even market under freely competitive conditions" (S. LITMAN: *op. cit.*, p. 215).

The difficulties of administering anti-profiteering legislation on a rising price level give added attractiveness to the price-stop system, which may be used to "stop" profits as well as prices. As mentioned above, however, the changes in basic economic conditions in wartime make it inevitable that very numerous exceptions will have to be made and the question arises on what basis these exceptional prices can be fixed.

It is tempting to answer on the basis of costs; and this is the answer which in fact appears in most of the present legislation. Past experience, however, justifies a certain scepticism about the reliability of this criterion. It is true that bakers' margins in England, sugar refiners' margins in the United States, and the costs of wheat production in both countries, were analysed on an exact and painstaking accounting basis during the last war. But in the British Ministry of Food, price fixing generally "proceeded by way of costings, conference and compromise"[1]; in other words, the final decision was inevitably a compromise between what producers asked for and what the Government thought consumers would stand.[2] In the nature of the case, the guidance given by cost accounting systems in price fixing can be but slight.[3] Costs for joint products are generally arbitrary within a wide range. While fraudulent costing is generally obvious, as in the attempt of the American millers to include old bad debts and losses on outside investments in the cost of wheat in 1918[4], there is no generally recognised *bona-fide* method either for the ascertainment of overhead costs[5] (particularly the depreciation of plant) or for their allocation. There is no uniformity of practice on the question whether materials should be included at cost or at market value; and in fact the United States Food Administration in 1917 used the first method for cottonseed margins and the second method for sugar. Difficult problems are

[1] W. H. BEVERIDGE: *op. cit.*, p. 172.

[2] A free rendering of the statement of J. R. CLYNES ("Food Control", in *Economic Journal*, June 1920) that "price fixing must rest less upon elaborate efforts at ascertaining accurate costs than upon experience and general observation".

[3] Always assuming that costing records can be obtained—a bold assumption for farmers and certain other important groups of producers.

[4] S. LITMAN: *op. cit.*, p. 230.

[5] There is a difference of expert opinion as to whether some overheads should be included as a part of costs at all. Thus the Research and Planning Division of the U. S. National Recovery Administration thought that advertising costs might be included but interest definitely not, although the views on this point are not unanimous. Cf. TAGGART: *The Cost Principle in Minimum Price Regulation*, p. 221. The wealth of American experience under the NRA codes summarised in this work confirms conclusively the war experience cited above.

raised by the existence of the war itself. Does cost include the cost of maintaining a selling organisation not required for Government orders during the war but difficult to build up afterwards? Wartime price fixing itself alters the conditions of uncertainty which the productive undertaking has to face. Ought this to be taken into consideration in fixing costs?

It is not, however, on these points of detail that the criterion of cost shows its most serious shortcomings. In principle the existence of profit implies different conditions of cost between different producers. If at a given output the low-cost producers' figures are accepted by the price fixer, the others will be put out of business and output will drop. If the highest costs are accepted, efficient producers will retain profits which in wartime are very likely to look "abnormal".

In view of this, it would be dangerous to rely on any present-day costing controls to "abolish profiteering" in food. There has, however, been considerable improvement on points of detail, and the present rules are in general much more explicit. Thus, the British Prices of Goods Act specifies the permitted additions to the basic prices—increased prices of materials, manufacturing expenses, wages and salaries, insurance, transport and advertising charges, and changes in the volume of business; and authority is given to the Board of Trade to fix the amount of such additions on demand by the traders and after consultation with an impartial central price regulating committee. This Act, however, gives no ruling on the proportion of trader's "mark-up" allowed on increased costs of materials passed on by manufacturers.[1] The French system forbade any "mark-up" at all apart from that due to increased taxes.[2] On the crucial point of the valuation of stocks for costing purposes the Swedish system is to value at replacement costs.[3] In Australia and South Africa, however, a compromise is accepted of "average" costs, defined by the Commonwealth Price Commissioner as "the cost ascertained by dividing the total cost of old stock and new stock by the total quantity of old stock and new stock"[4] and in South Africa as "the average cost of . . . . goods on hand and the

[1] It is also not clear whether increased prices passed on by manufacturers under an agreement to maintain re-sale prices come within the scope of price rises permitted by the Act. Frequent price cutting is reported by retail traders who are in doubt on this point. (*The Times*, 19 January 1940.)

[2] *Le Temps*, 13 November 1939.

[3] G. AKERMAN: "Sweden's Price Policy", in *Quarterly Report* of Skandinaviska Banken, January 1940.

replacement costs of the same quantity of similar goods."[1] But to allow average replacement costs to be charged differentiates unreasonably between industries with different rates of stock turnover. It also obliges firms which happen to hold large stocks bought at low prices to undercut others in the same industry.[2] It is not clear that this is the intention of such a rule. Little direct guidance is given on the problem of allocating overhead costs, though in New Zealand the Price Investigation Tribunal may allow higher prices if overhead charges have to be spread over a smaller output.[3] In Germany prices to consumers may not be raised to cover overheads if sales fall off.[4]

Traders' "mark-ups" and inflated stock valuations are obvious targets for the anti-profiteering price fixer, and it is not surprising that in Germany even before the present war stringent regulations were in force forbidding proportionate "mark-ups" on imported goods whose foreign price was rising and obliging firms to value stock at cost.[5] The drawback to this procedure, namely the discouraging effect it has on the accumulation of stocks, is less important after war has begun, and it is just at this moment that the temptation to profiteer becomes great.

The German price control system has in recent years relied not on the costs of individual traders as a test for the fairness of their prices but on a "justifiable" price (including "reasonable" profits and wages at tariff rates as fixed by the labour trustees) worked out beforehand by the control committees, the object being to influence prices in an active way and to preserve private initiative and the interest of the owner of the business in running it efficiently. But it has, of course, become clear that if large sections of the pricing system are controlled in this way the "justifiable" prices will become increasingly arbitrary (since objective costs can only emerge in a freely competitive economy) and the control will gradually be pushed into making all the responsible decisions of production itself.[6]

[1] RICHARDS: "Some Factors in the Economy of War", in *South African Journal of Economics*, September 1939. Professor Richards states: "The whole idea of 'averaging' seems unnecessary. technically very difficult and likely to promote the very conditions the profiteering regulation was designed to prevent". Cf. also notes on this subject by Professor Richards and T. B. KING in the same *Journal*, December 1939.

[2] W. PREST: "Price Control", in *Economic Record*, December 1939.

[3] *New Zealand Herald*, 2 November 1939.

[4] *Wochenbericht des Instituts für Konjunkturforschung*, 21 March 1940, p. 39.

[5] MIKSCH: "Vom Preisstop zur Kostenkontrolle", in *Die Wirtschaftskurve*, August 1939. p. 256.

Changes in this system introduced since the present war broke out are not changes of principle. Prices had always to be "justified" with reference to the aim of the economic system at the time.[1] The aim is now to build up a pricing system appropriate to the war economy.[2] More intensive efforts are to be made to keep prices down. The price stop of 17 October 1936 no longer holds good since prices might have been "unjustifiably" high then, from the point of view of present needs, or costs may have fallen since then.[3] Higher costs due to the war (such as war insurance premiums and special war depreciation allowances) must not be passed on. Welfare expenditure above the level allowed by law or by the custom of the trade is disallowed, and must be passed on to the community by way of lower prices. Cartel and monopoly prices must also be adjusted to these arrangements and they may no longer be based on high-cost producers. These changes make it likely that greater downward pressure on prices can be exercised under the German system than in the other cases cited. But it is clear that in Germany as in other countries the principle of cost control is not really regarded as anything more than a bargaining weapon between the price fixers and producers. The price stop system by itself, however it is hedged about with special exceptions, and tested against costs however defined, is inadequate to deal with the rising price level and a consequently rising profit level due to wartime scarcities. Supplies may be increased to some extent and distributed better by means of subsidy schemes like the British. But an essential support of price control schemes on the demand side is rationing of consumption.

Rationing

If the price of a given quantity of goods is fixed at any lower level than that which would just clear the market, some form of official rationing becomes very desirable. In England in 1917, when the prices of margarine and tea were kept down by controls, supplies were insufficient to satisfy the demand at those prices, and long queues formed outside the shops in London and other large

[1] Hecht: "Das Wesen der Preisstopverordnung", in *Jahrbücher für Nationaloekonomie und Statistik*, August 1939.

[2] See paragraph 22 on "War Prices" of the War Economy Decree, 4 September 1939. (*Reichsgesetzblatt*, 4 September 1939.)

[3] *Frankfurter Zeitung*, 23 September 1939. Cf. Grosse: "Preispolitik im Kriege", in *Deutsche Wirtschafts-Zeitung*, October 1939.

cities, distribution being accordingly quite haphazard. But in a national emergency the distribution of scarce supplies of the staple foods should proceed at least roughly according to need, regardless of income levels. And even where the shortages are not acute, a reduction in the consumption of higher income groups by rationing may protect the population from malnutrition if very substantial cuts in the food supply become necessary. Since it is generally the object of price control to prevent a high free price from emerging, a methodical rationing scheme becomes essential if queues are to be avoided.

The main difficulties in rationing are to ensure that no less and, in the case of acute shortages, no more than the rationed quantities of food actually reach the consumer. A beginning may be made with voluntary rationing, as in England in 1914. Supplies may then be cut off on certain days of the week. The voluntary rationing of bread, meatless days in England, sweetless days in France, and fatless days in Germany, were thought sufficient until the second or third year of the last war. In France during the present war experiments were made with prohibitions of the sale of meat, alcohol, and bakery products, on certain days of the week. These arrangements are unfair to those who cannot take all their meals at home. The next step is to issue ration cards to every household. But this is unfair in the opposite sense unless ration cards have to be produced in restaurants also. Owing to unsatisfactory experience with these arrangements, strict control began in earnest in several countries from the beginning of the present war. The existing channels of distribution are generally utilised to begin with, and rations are based on some definite proportion of the pre-war intake. Here past experience is more encouraging. In the American sugar rationing scheme of 1917 there was an elaborate classification of manufacturing consumers then in business, some of whom (e.g. canners) got all they required, while others were restricted to a low proportion of their previous year's consumption. In the more developed British scheme of 1918 retail consumers were "tied" to their usual retailers by registration and could buy limited amounts of food (whether in shops or restaurants) only in exchange for the fixed price and a ration coupon. Retailers were then tied to particular wholesalers for the rationed supplies. The rigidity of rationing arrangements varies with the degree of scarcity of the foods, their perishability (fresh fish and fruits, for example, do not fit into any rationing scheme very comfortably), the mobility of the population (liable to be high during a redistribution of labour to the munitions industries), the importance of "institutional" housekeep-

ing, and other factors peculiar to each country. Even the most rigid schemes, however, generally allow the consumer to choose and change his retailer so as to get the benefit of the only kind of retailing competition which will be left, i.e. competition in service. And in the British scheme of meat rationing both in the last war and at present consumers are allowed the further privilege of buying any kind of meat up to a certain weekly value, maximum prices being fixed by the Ministry.[1] The German rationing scheme for clothing, which permits free choice up to a certain yearly quantity of clothing, bears a resemblance in principle to the meat scheme. Price competition, beneath the limits of the particular price maxima set by the controls and the total purchases permitted by the scheme, is allowed to function and distribution proceeds according to individual preference.

This is clearly a very important departure, since the chief objection to the principle of rationing is that it reduces real income by preventing consumers from equating the marginal utility of money in all lines of expenditure. From this point of view the reintroduction of some freedom of choice is a step in the right direction. But, it is natural to ask, why not generalise the principle? This could be done either by allowing consumers to trade in ration coupons (which is at present explicitly forbidden in most schemes) or by distributing coupons covering "all necessary foods" up to a certain maximum weekly value per head, consumers being left free to indulge their own preferences as to which foods they choose and in what quantities they buy them.

The mention of such a suggestion at this point shows how disconcerting it really is. Price control begun, as described above, in order to improve the production and distribution of food meets the difficulties of supply with rather inadequate costing systems and the difficulties of demand with rationing. It now appears that the greatest refinement which can be suggested from general principles and administered in practice is to abolish rationing and reintroduce the free pricing system at important points. This apparent paradox is discussed in the concluding section of the present article.

Administration and Enforcement

The administrative organs responsible for price control in practice rely extensively on advice from experts and from interested parties. For instance, during 1914-1918 the British Ministry of

[1] In 1914-1918 the coupon allowance was related to weight at the maximum price enforced. This is not so in the present scheme.

Food consulted the Agricultural Advisory Council on its production programmes and the Consumers' Council on rationing. On the Consumers' Council were represented the Parliamentary Committee of the Co-operative Congress and of the Trades Union Congress, the War Emergency Workers' National Council, and the National Organisation of Industrial Women Workers. Each of the 2,000 local food committees included at least one representative of labour. Retail price fixing by the prefects in France during the same period took place in consultation with special commissions representing, among other organisations, the chambers of commerce and the agricultural societies. Similarly, in Germany the Central Price Fixing Office included representatives of the established agricultural associations, the German Consumers' Union, and the Reichstag.

In this war the French Minister of Agriculture fixed food prices in conjunction with his consultative committee of Government officials, workers, and employers.[1] The British Ministry of Food has an advisory committee of trade unionists[2], and consumers and workers are also represented on the local food committees. There are obvious risks, however, in carrying the principle of consulting interested groups too far. A feature of the German administrative scheme, for instance, which came in for some criticism during the last war was the creation of national monopolistic food corporations to buy and sell food (at a profit) as agents of the Imperial Ministry of Food, which had inadequate executive powers under the federal constitution. These corporations included all the principal manufacturers and distributors of the staple articles of food, and in many cases they were nothing but previously existing cartels under other names (e.g. the Distillers' Cartel and the Fodder Syndicate). Since then the position of cartel organisations in the food producing and distributing industries of many countries has been greatly strengthened, particularly during the struggle for national self-sufficiency and the great depression in the world markets for staple foods which preceded the present war. Such cartels are at first sight the obvious nuclei of Government controls in wartime, and in Great Britain and Germany, for instance, several of them have in fact been taken over practically *en bloc* by the State. The Reichsnährstand has changed from a semi-professional organisation to a part of the State machinery. The vertical agricultural cartels (*Hauptvereinigungen*) now have to plan the collection and distribution of their products under the direction of the Minister

[1] Constituted according to the Decree published in the *Journal Officiel*, 30 September 1939.

[2] Sir W. CITRINE: *T.U.C. in Wartime* (London, 1939).

of Agriculture.[1] Marketing boards commandeer and distribute foods according to a Government plan and no longer sell them "with commercial ends in view".[2] In England "when the Government become the sole buyers, as they have done, of stocks of food . . . and control deliveries and distribution, it is not some newly-created body of bureaucrats which is carrying on the operations but the trading organisations acting as the agents of the people of this country".[3] Thus, in the case of the Milk Marketing Board the Minister of Food said: "I should deprecate any undue disturbance of the actual machinery which the Board has built up in the past for performing its duties. I think it will be agreed that it must be subject during the war to general direction."[4] The British Government has even encouraged the formation of some new groups, e.g. the Bacon Importers' National Defence Association, established for the distribution of short supplies of bacon under wartime conditions, and the Meat Importers' National Defence Association, a similar group which includes every meat importing firm in the country.[5] Eight wholesale meat supply associations have also been set up by the Ministry of Food to act as its agents in the wholesale distribution of meat. The extension of price controls, and of the further controls over distribution and consumption which this involves, makes such developments inevitable. But even if there is no lack of public spirit among the business interests represented on the controls, it may yet be said that the risk of conflict of interest is serious.

For enforcement of the prices fixed by the controls the usual principle relied on is the power of Government to license producers and distributors[6] and to requisition the goods altogether as a last

[1] G. ALBRECHT: "Der allgemeine Verwaltungs- und Organisationsapparat für die Kriegswirtschaft", in *Jahrbücher für Nationaloekonomie und Statistik*, November 1939.

[2] W. MEINHOLD: "Die deutsche Kriegsnährungswirtschaft", in *Jahrbücher für Nationaloekonomie und Statistik*, December 1939.

[3] Speech of the Minister of Food, 15 November 1939, quoted in Ministry of Food Bulletin No. 11.

[4] House of Commons Debate, 14 December 1939.

[5] "The outbreak of war throws all the world market into a flurry. If the meat importers in this country had continued to compete against each other for meat supplies in the normal way, supplies would have been uncertain and prices would have risen steeply . . . The Association will act as the agent of the Ministry and will make arrangements for handling imported meat with its constituent members." (Ministry of Food Bulletin No. 14.)

[6] The licensing system commonly covers every retailer but need not do so. For instance, in the United States, where only those retailers with an annual turnover of more than $100,000 were licensed, the authorities relied on the revocation of licenses and the criminal prosecution of firms selling to smaller retailers for the enforcement of price controls below this limit.

resort. Enforcement problems during the last war arose rather late because price control itself was adopted long after inflation had disturbed normal price relationships, and was even then adopted incompletely and irresolutely. As late as February 1915 the British Government believed that the proper remedy for rising prices was not price controls but rising wages. It was not until widespread dissatisfaction with food distribution arose (and was expressed through the Commission of Enquiry into Industrial Unrest) that the problem of systematic enforcement began to be faced.

In times of acute food shortage the evasion of fixed prices may be so profitable to both buyer and seller that the penalty must be very severe indeed to stop it. The French law of 1916 against speculation provided that anyone who caused or attempted to cause a rise in prices above the rate that free and natural competition would have determined was liable to fine and imprisonment. Heavy fines were inflicted in Great Britain on traders for charging more than the maximum price allowed, on farmers for feeding cereals to stock or illegal slaughtering, on consumers for hoarding or for rationing frauds. In the United States many successful prosecutions were even carried through under the Sherman Anti-Trust Act of 1890.

Some forms of evasion became particularly serious and deserve some mention because a special attempt is made to deal with them in the present control schemes. One is the practice among retail traders of evading the fixed price by forcing their consumers to buy other goods as a condition of getting some of the scarce ones.[1] The present British Prices of Goods Act forbids sellers to require as a condition of sale that the purchaser shall buy additional goods and services (other than transport or insurance). Another method is to maintain the fixed price but to make changes in the quality or quantity of the goods, or in the discounts or other conditions under which they are sold. Price stop laws at present usually have long and complex provisions designed to cover this type of evasion.[2]

Self-suppliers, especially farmers, are brought into any price control or rationing scheme only with the greatest of difficulty. In the United States during the last war Mr. Hoover constantly objected to any scheme of compulsory rationing because half the population were either producers or lived in intimate contact with producers. In Germany the maximum price law of November 1915

[1] This practice was legalised exceptionally. The United States Food Administration allowed "combination" sales of 1 lb. of sugar with 2 lbs. of cornmeal as a wheat conservation measure.

[2] Cf. notably the French price Decree of 1 March 1940.

for pigs was avoided by many farmers who consumed the meat themselves, and from then on until the end of the war the position of the agriculturists as against that of town dwellers became an increasing source of discontent. Farmers received much higher rations in order to encourage them to maintain food production; but in addition many of them carried on an illegal direct trade with townspeople at very high prices which escaped the price control and rationing system altogether. At present very detailed regulations apply to self-suppliers in Germany, who get no ration cards but have to keep careful records of their own consumption.[1] But it is clear from the fact that in 1917 large industrial enterprises and many public bodies were buying in unofficial markets that there is a point of scarcity beyond which the enforcement of price controls requires military discipline and involves the risk of serious social upheavals.

Food Price Control in the Last War

To judge from the usual statistical indicators, wartime price controls in 1914-1918 accomplished a good deal of what they set out to do. In all the belligerent countries for which records are available the rise in food prices during the war was very steep, but it is fairly clear that it would have been even steeper without the controls. In Great Britain, for instance, the rise in the retail price index number of the Ministry of Labour seems to have been definitely arrested late in 1917 from the time when the Ministry of Food began its price-fixing activities[2]; and after that date a rough index of the prices of controlled foods shows a divergence of nearly 200 points (1914=100) from that of uncontrolled foods.[3] Similar movements can be traced in the United States after the institution of food controls in September 1917.[4] In Germany Gunther's index of the retail prices of rationed foods (in the rationed quantities) showed a rise of about 100 per cent. during the war, while the index of food expenditure per head in workers' families rose about 180 per cent.[5] Staple foods in wide use showed a particularly strik-

[1] W. Meinhold: *loc. cit.*, p. 700.

[2] See Bowley: *Prices and Wages in the United Kingdom, 1914-1920*, p. 35.

[3] W. H. Beveridge: *British Food Control*, p. 324.

[4] P. W. Garrett: "American Control over War Prices", in *Annals of the American Academy of Political and Social Science*, May 1920 (chart on p. 35).

[5] Zimmermann: *Die Veraenderungen der Einkommens- und Lebensverhaeltnisse der deutschen Arbeiter durch den Krieg* (Carnegie *Economic and Social History of the World War*, German series, Stuttgart, 1932), p. 463.

ing divergence. Thus in France the price of bread rose only 30 per cent. during the war, while the retail price index of the *Statistique générale* (1914=100) increased to 260.

At the same time, since the controlled commodities were in most cases not available except in the form of rations or were offered in inferior qualities or substituted entirely, any comparison of their price levels at different dates has a very limited significance.

The price levels cannot be used to show whether the wage earner is "better off" under rationing than he would have been without it, since it is impossible to say what prices would have been in the absence of rationing. Nor can they be used to show whether he is better off under price control than he was before. All that can be said is this: that if money wages and the retail food price index number remain unchanged but foods are rationed, the wage earner is worse off than before because any combination of foods which he can now buy he could have bought before and did not choose to. If (as usually happens) there is a rise in the food index before a rise in money wages and a lowering of the quality of foods, the wage earner is of course worse off than before on each of these counts. The essential point, however, is that the food index is useless for measuring how much worse off he is. A correction might be made under severely simplified assumptions[1] but not in practice. In the first place the weighting system is subject to very great changes. Moreover, rationing is generally markedly discriminatory—not according to money income but according to age, sex, type of work, state of health, etc; and among persons of different tastes the rationing system works unequal hardship. Under such conditions the conception of a significant general index number becomes rather nebulous. It is risky to place any reliance on such measurements as a guide to changes in the cost of living under rationing conditions (particularly in wage negotiations) and impossible to correct them for the existence of such conditions.

A more promising approach is to test the effect of price controls on the total working-class expenditure on food. This was the aim of the Sumner Committee in Great Britain[2], which estimated, on the basis of family budget enquiries in 1918, that the increase in working-class food expenditure per week between June 1914 and June 1918 was a maximum of 90 per cent. The British Ministry of Food, proceeding with the same object, constructed a hypothetical budget based on *per capita* consumption of the principal foods during

[1] E.g. concerning the measurability of utility.

[2] *Report of the Working-Classes Cost of Living Committee.* Cd. 8980, 1918.

the war years, and when this was priced at current prices in June 1918 expenditure was found to have increased 74 per cent. above that of 1914. Both these figures were lower (as might have been expected) than the ordinary Ministry of Labour food price index based on pre-war quantities, which showed an increase of 108 per cent.

A further alternative is to compile a calorie index based on the energy value of food consumed. Thus, the Sumner Committee, using its budget data, calculated the change in calorie intake weekly per family as follows:

Item	1914	1918	Change	Change in calories
	lbs.	lbs.	lbs.	
Bread, flour, rice, tapioca, oatmeal	36 2	37.2	+ 1 0	+1,350
Meat, bacon, lard, suet	9.0	7.7	− 1 3	small
Butter and margarine	2 12	1 70	− 0.42	−1,500
Cheese	0.84	0.41	− 0 43	− 900
Potatoes	15 6	20 0	+ 4 4	+1,400
Eggs	13.0	9.1	− 3 9	− 300
Milk	9.2 pints	11 7 pints	+ 2.5 pints	+1,000
Sugar	5.9	2.8	− 3.1	−5,700

A more elaborate attempt at a calorie index has been made in Germany, where since October 1939 the scheme of weights (quantities of various foods consumed) of the official retail index number has been changed each month to take account of changes in the rationing scheme and the availability of alternative free goods, the calorie value of the quantities finally chosen being kept constant.[1] It is doubtful whether the change in weights has had a very important effect so far, as individual prices themselves have changed little since October 1939. The defects of a simple calorie measure of the nutritive value of foods are, however, serious.

The difference between such constructions and the ideal set, for instance, by the pre-war British index number, that it should show the cost of maintaining unchanged the 1914 "standard of living", is sufficiently obvious.

Conclusion

The reasons for which price controls are imposed in the first place—the maldistribution of purchasing power, ignorance or panic

[1] *Wirtschaft und Statistik*, November 1939, p. 717.

among buyers, monopolistic exploitation of scarcities — apply in peace as well as in wartime. But they become much more urgent in wartime. In the administration of the controls, however, it is inevitable that an increasing number of difficult problems should arise. The structure of the pre-war price system cannot remain unaltered. Economical substitutions within the range allowed by the norms of good nutrition will be necessary. The increasing costliness of supply due, for example, to the change to formerly less accessible sources and to the increased cost of transport, will make pre-war cost limits quite ineffective. But the task of fixing officially the entire range of prices necessitated by the new conditions and of maintaining all prices in appropriate relation to one another is extremely difficult. The attempts during the last war show that only after a long and costly process of trial and error can prices be fixed appropriately at all stages of manufacture and at the same time appropriately within the range of competing goods.

The immediate solution is the policy of the price "stop". But this is a counsel of despair. It runs the risk of putting the whole economy (which will be changing rapidly under wartime conditions) into a strait-jacket. If numerous exceptions are allowed all the old difficulties recur; and experience justifies great scepticism about the efficacy of the means so far adopted for dealing with these difficulties. So long as the controls allow private production and distribution to continue in a large measure, and so long as the economic system is not operating under conditions of military discipline, it is impossible to stop all profiteering by costing controls however elaborate; and substantial reductions in quality and petty evasions of the fixed prices by numerous shopkeepers may be expected to occur frequently. The controls can be tightened considerably by the rationing of consumption. But rationing itself is subject to the further objection that it destroys real income through the restrictions on choice, and it can often be evaded by recourse to unofficial markets of rationed foods or to the free markets for fresh foods which are difficult to control for technical reasons.

A common source of all these difficulties is that the control of food prices has so far been regarded as a problem in itself. In reality it is merely one of a number of related problems arising out of the operation of the war economy. For the purpose of waging war the State must take for military uses the largest share of the national income which it considers appropriate (having regard to the fact that the size of the share taken affects the total itself) and leave the rest for civil needs including food. The deduction may be made in the orthodox way by taxation or by borrowing. But

it can also be made much more crudely by inflationary money policy, which is haphazard in incidence and must in practice be supported by price controls and rationing schemes which are liable (particularly at times of great scarcity) to come under severe pressure from the free purchasing power returned to consumers through the inflation. When income payments are forced up in line with prices there is a serious risk of the widespread breakdown of price controls. In theory, a rationing system for all consumables would provide a complete safeguard—by depriving the pricing process of economic significance. But the experience of 1914-1918 shows that rationing systems falling far short of this are very difficult to enforce, and large-scale evasion leads to much injustice. Price control supported by partial rationing would still leave room for great differences in the consumption levels of different income groups, besides offering no effective safeguard against inflation and the diversion of excessive resources into the production of non-rationed foods. Although the general problem of war finance is outside the scope of this article, it may be said quite definitely that, until means are discovered of reducing the purchasing power available for consumption to the minimum thought desirable by the Government in view of war needs, no system of food price control will work entirely satisfactorily.

If the general level of consumer prices can be kept down by this means quite a useful field is opened for the control of the pricing, and therefore of the production and distribution of particular foods. Under wartime conditions only the Government authorities can know the best nutrition policy which can be followed in view of present food stocks, and only the Government can know the location and amount of the economic resources available for the food industries and the military restrictions on particular ways of using them. For military reasons the Government must control various strategic points in the economic system, particularly transport and communications and the foreign exchange market. The inevitable result is that Government itself has to become the principal, if not the sole, importer of foods and the principal buyer of home production. In such circumstances, a free pricing system has little *raison d'être*. Schemes of general rationing with a free pricing system for the various constituents of a general ration card might have a very limited application, e.g. among a few foods of

equal nutritional value like substitutable cereals and fats.[1] But an extension of free prices generally would transfer to private individuals powers over production and consumption which they are not in a position to exercise intelligently. The general principle of food price controls (in an economy accustomed to private enterprise) must be that producers are paid by the Government prices which are sufficient to induce them to produce the output consistent in total with the other (military) needs of the war economy, and consistent in its items with the nutritional needs of the population. Prices must now be set for consumers at a level sufficient to carry off all the output available. Between the total monetary rewards paid to producers and the total purchase price paid by consumers there will be approximate correspondence if purchasing power in the hands of consumers has already been curtailed appropriately. But it is clear that the buying prices of some foods which the Government thinks it is essential to produce may be too high to distribute all the output to consumers; and the selling prices of some foods whose consumption the Government is seeking to extend will be too low to produce the output required. *Vice versa,* some prices will not be low enough to discourage production and others will not be high enough to discourage consumption. Moreover, owing to the unequal distribution of purchasing power even under restrictions, there is no assurance that the poorest consumers will be adequately fed. Finally, since at least the average prime costs of the least efficient producer contributing to the desired output must be covered by the price, some abnormal profits are likely.

Thus, the price control authorities must be prepared, first, to finance the gap between their own buying and selling prices and, second to sell a limited number of staple foods to the poorest consumers at a price low enough to secure them adequate diets. Finance for this last purpose might be secured by taxing "war" profits and by increasing the prices of foods normally beyond the reach of the poor, and the total cost kept at a minimum by strict rationing of the subsidised foods in elastic demand. It is very important to fix the prices of subsidised foods low enough to enable the very poorest to buy their rations. Thus to fix prices at a pre-war average level for staple foods of a pre-war average quality might make

[1] Local ration surpluses of perishable foods which are liable to appear under any scheme because consumers do not draw all their rations might also be distributed by free prices in order to avoid waste. But the surpluses should not be so high as to produce allegations that they are deliberate. Cf. the complaint in *The Post* (Journal of the British Union of Post Office Workers), 6 April 1940, which alleged that butter surpluses were being provided in this way for rich consumers who were then urged to buy butter so as to free margarine for the poor.

the full rationed quantities too expensive for poor persons whose pre-war means were sufficient only for low quality foods in specially cheap markets. Malnutrition was so widespread in the lower income groups of even the richest countries before 1939 that quite small increases in the cost of staple foods at present would have very serious effects. A slight decrease in the cost would, on the other hand, bring about improvements in the resisting power of the population which is such a vital condition for the successful prosecution of a long war.

As the natural resources and the economic and military circumstances of each country differ so widely, it is difficult to go much further in laying down general rules for food controls. Countries whose food imports are liable to interruption may reasonably adopt a rationing scheme for non-perishable foods as early as possible in wartime in order to conserve stocks; and a general price "stop" imposed at once may successfully circumvent exaggerated speculation in all foods during the first few weeks. Countries which are normally self-sufficient in food may find it necessary even to reduce the size of the food industries by fixing prices in the early stages of the war at prime costs, thus preventing the replacement of stocks and the renewal of capital and transferring the resources normally earmarked for this purpose into the hands of the price control. The main principle to grasp, however, is that the wartime activity of the Government as the principal buyer and importer of foods gives it a strategic economic position in all the food markets. This allows quite widely differentiated buying and selling prices to be fixed with the object of bringing about automatically many of the changes in production and consumption made necessary by war. Changes in productive technique and consumption habits cannot always be brought about very readily by law, or by spreading information, though much has been done and still remains to be done in persuading consumers to buy the "right" commodities ("right" from the point of view of the war economy and their own welfare) and to prepare them in the right way. These changes can often be more conveniently, more quickly and more certainly introduced merely by changing a number of key prices.

The nature of these changes is of course a matter for separate decision in each country in the light of the nutritional, military and economic considerations referred to above. They cannot be brought about except under the general safeguard of a restriction of consumers' spending power; and they may involve treasury subsidies. However buying and selling prices are fixed, it is difficult to prevent profiteering altogether, though the importance of the State as

a source of supplies gives the controls a much more powerful weapon against it than costing systems. Rationing (though on a limited scale) is unavoidable; and evasion (particularly direct sales at high prices from producers to consumers instead of at low prices to the controls) will always be serious at times of acute shortage. In the last war food price controls were often stultified unnecessarily and sometimes swamped altogether by the results of mistakes in a more important sector of the war economy. It is probable that within the limits and under the safeguards suggested above such controls can in the present emergency be made into desirable and essential parts of the economic machinery of the State.

The Place of Housing Policy in War Economy

by

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INTRODUCTION

DURING the last 25 years the importance of housing standards has been recognised more and more. It is generally realised that bad housing conditions injure or ruin lives physically, mentally, and morally, and Governments in many parts of the world have endeavoured to provide adequate housing for citizens who on account of insufficient income would otherwise be obliged to live below accepted housing standards.

Defence preparations, both military and civil, require large amounts of capital. In normal times the building industry absorbs about 50 per cent. of all new capital investment.[1] Since no other industry requires so much new investment per worker employed, it is natural that Governments in need of capital direct their attention towards that industry, since a restriction of building activity may release more capital for war purposes than restriction of any other industry. It therefore becomes important to decide to what extent Governments can afford to allow construction to continue.

[1] According to estimates made by Akerman and Lagercrantz, the construction of dwellings in Sweden amounted to 50 per cent. of the total real investment in the twenties. Alf Johansson (*Bostadsforsoerjningen ur produktions- och sysselsaettnings-synpunkter, Statens offentliga utredningar* 1935:2, Supplement 8) is of the opinion that the proportion is between one-third and one-half. The corresponding figure for the United States, determined by the National Bureau of Economic Research for a large number of post-war years, was 40-50 per cent., and for Germany, determined by the Statistisches Reichsamt for a similar period, about 50 per cent.

The need for new dwellings in order to maintain decent housing standards is, as explained below, not only greater but also more urgent in war than in peace-time. The traditional measures adopted (rent restriction, moratoria, rent reductions, etc.) only postpone the problem without solving it, and the need for additional accommodation becomes more and more pronounced.

Experience shows, however, that the supply of houses necessary to satisfy the increasing need, especially for smaller dwellings, is not forthcoming. Even in countries that remained neutral for a considerable period after the war broke out and took no restrictive measures because it was thought that the national defence did not require all the available productive resources as it did in the belligerent countries, the construction of dwellings ceased almost completely after the outbreak of war. It therefore seems as if the restrictive measures adopted in the belligerent countries to stop all construction of private dwellings were hardly necessary. Only when fear of inflation leads to a capital flight into real property do such restrictions become indispensable.

In order that deterioration of housing standards should not become too serious, the Governments in the neutral countries immediately tried to encourage the construction of low-cost housing. In the belligerent countries, however, some time passed before it was admitted that a policy of complete restriction could not be applied to all sections of the building industry. During the war, some building activity must be stopped in the interest of an efficient war economy and some must be encouraged as an essential link in the war economy itself. Certain forms of building activity, for instance housing accommodation for evacuated children, air-raid shelters, or dwellings for workers in decentralised factories, are in many cases just as essential to protect human lives or safeguard war production as the provision of air defence or armament factories.

The purpose of this article is to show that if the war economy is to be organised effectively it is essential for every Government to decide the place of low-cost housing in the general plan of war economy, with due regard to the resources available as well as to the urgency of the need for special kinds of housing accommodation. The longer the war is expected to last, the more important it is to integrate building activity as quickly as possible into the general plan of war economy.

Changes in Housing Needs

The outbreak of war was expected to bring heavy air attacks on the large cities, and Governments tried to evacuate the population not only from the front zones but also from the prinicipal industrial towns. This evacuation is a part of civil defence and was specially designed to save the lives of children and to preserve the morale of the population of large cities.[1] Such evacuation, however well it may be organised, leads to overcrowding of dwellings in receiving districts.

In view of the fact that large towns all over the country are exposed to air bombardment most of the evacuees have been obliged to live in small towns or villages with inadequate accommodation and little of the comforts to which many of them were accustomed. The failure of Great Britain's first attempt to carry through an effective evacuation policy, was, in the opinion of Lord Farringdon[2], due primarily to the conditions in the country. The town dwellers were horrified by the lack of electricity, running water, and adequate sanitation. They found the new life so uncomfortable that many of them quickly decided to return to their homes in the towns.

During the first six months of the war, when the bombardment of open towns failed to materialise in Great Britain, this tendency was further encouraged. Nevertheless, the Government did not abandon the evacuation policy because it was convinced that the danger of air attacks had not diminished, though the moment of impact was not calculable. Consequently, it continued to maintain that the removal of children from the large cities was of great advantage in the prosecution of the war, and expressed regret that so many parents failed to avail themselves of the scheme[3] in time and that so many of those who did so had since taken their children home again. In the United Kingdom only a small number of receiving areas had after the first week of war retained their full complement of evacuated urban mothers. At the close of the third month many areas had lost more than 80 per cent. The drift away from areas receiving children of school age was slower, and at the end of 1939 about 65 per cent. of those who took part in the original evacuation were still scattered over the countryside.

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[1] Department of Health for Scotland: Memorandum, *Government Evacuation Scheme*, No. 7.

[2] *Parliamentary Debates, House of Lords*, 20 February 1940.

[3] In London, for instance, only 45 per cent. (675,000) of those entitled to take part in the scheme actually left the metropolis.

It was generally considered preferable to find homes for the children by billeting them in private households. The number of children in receiving areas was until May still so small that the billeting did not give rise to any serious problems, but it was already realised that in the event of large-scale evacuation it might be necessary to make billeting compulsory or to create new housing accommodation, schools, and hospitals, in the receiving areas.

Before the offensive of May 1940, evacuation had been conceived primarily as an emergency measure; it has now become a social question of enormous magnitude and of uncertain duration.[1] Until May 1940 between 60 and 70 per cent., and possibly more, of the children of all ages normally in the vulnerable areas were still there. Later the Governments of Canada, Australia and New Zealand, and private homes and institutions in the United States offered to care for homeless British children evacuated from the cities. Although Great Britain proposed to take advantage of the offer as rapidly as arrangements could be made, the number of children who were brought to safety overseas was not as great as had been expected. Since the sinking of the "City of Benares", this overseas evacuation plan has been temporarily abandoned. Instead, evacuation to the rural districts of mothers and children from certain London areas rendered dangerous by bombing and by the danger of infectious disease in underground shelters is being organised by the Government.

It was reported on 24 September 1940 that nearly one-half of the children of school age were still in London and in the Thames and Medway areas; 428,000 children of school age were still in these areas while 464,000 had been removed. On 21 October, the Government took new steps to accelerate the removal of the civilian population of London from the capital. This evacuation necessitated a more extensive use of the billeting system, and local authorities in the reception areas were authorised by the Minister of Health to make the fullest possible use of the empty houses and to use compulsory billeting powers when necessary.[2] On 31 October, the Minister of Health announced that about 70 per cent. of London's children in areas hard-hit by German air raids had been removed to the country, that is to say 563,000 children as compared with only 464,000 a month earlier.[3] Efforts to speed up the removal are

[1] F. le Gros Clark and Richard W. Tombs: Fabian Society Tracts, No. 249.

[2] Canadian Press despatch, 21 October 1940.

[3] Canadian Press despatch, 31 October 1940.

continuing and special officers are being sent to parents in the poor districts to explain the evacuation scheme.

At the end of September, it was announced that German authorities had made arrangements to evacuate from Berlin children whose parents wanted them removed to zones immune from British air raids. Parents who live in metropolitan areas where air-raid precautions are not satisfactory, or whose children are in a state of nervousness which would be aggravated by air raids, will be able to send their children to other areas. In the last week of October, the German railways were preparing to run 75 special trains for the purpose of removing children from Berlin to the eastern provinces where local families had been asked to receive one or two children each.[1]

A real effort to disperse the whole of the child population for the duration of the war will unavoidably lead to readaptation of the existing dwellings and construction of new houses. If the main purpose were quickly to create new housing accommodation for temporary use only, it would be natural to consider the possibility of building a number of wooden barracks. This, however, would in most cases meet with serious difficulties, as the necessary timber would have to be reserved for military purposes such as military barracks, trenches, etc. If more durable houses were constructed they could be made to serve local purposes after the war. The cost need not be enormous, if the local authorities are encouraged to use to the best advantage all their available resources of labour as well as of materials.

Relocalisation of industries. The fact that the newly-created armament industries are spread over the country means that skilled workers must be transferred from the big towns to the new factories. This splitting up of existing households creates of course an additional need for housing accommodation for the workers who are obliged to leave their homes. As will be seen later, Governments have found it necessary to satisfy this need by the construction of new dwellings.

Dwellings damaged by the war. It is evident that the need for additional housing accommodation increases when the existing supply is diminished by enemy attacks. When dwellings are damaged by the war and owners are unable to take immediate steps to repair them the occupants are obliged to seek shelter elsewhere. The need for housing accommodation to replace houses destroyed by enemy

[1] Associated Press despatch, 22 October 1940.

attack has increased tremendously during the last months and it is to be feared that the destructive effects of war will be felt more and more extensively in the near future.

Surrendered territory. Not only war but also the conclusion of peace may oblige a great number of people to leave their present dwellings and settle in new areas. In order to give an idea of the magnitude of the housing problem with which the Finnish Government was faced upon the conclusion of peace, it is sufficient to mention that on the territory ceded to the Soviet Union there were at least 40,000 agricultural properties and 10,000 urban buildings and houses, of which 7,000 were in Viborg.[1] In addition, 4,000 dwellings were destroyed in those areas still belonging to Finland.[2] For the inhabitants of the ceded territories who have moved the Finnish Government has to create housing accommodation within the new boundaries.

Acquired territory. Additional housing accommodation will also be needed to effect another kind of forced settlement occurring after the surrender or invasion of an independent country. Many thousands of Germans formerly living abroad are being settled within the territories newly occupied by Germany. For these people not only work but also dwellings must be found. In the Polish territories occupied by Germany this settlement is in the hands of the Reichsführer of the Sturm Schütz (Black Guard), who can distribute existing settlements to German settlers, but it is not possible to begin new construction before it is known which settlements will be vacated by the former inhabitants and how far these settlements can be used as they are or will need to be adjusted to meet the requirements of the German settlers. Last winter the Black Guard commission evacuated 130,000 German peasants from Russian to German-occupied Poland. In the autumn of 1940 it was reported from Warsaw that preparations had been made to move 31,000 Germans from the Lublin district to the Reich territory. The reason is probably that Lublin has been made a receiving centre for Jews from Austria, Czechoslovakia and Poland. Large numbers of the Austrians evacuated from South Tyrol will be settled in the former Austrian towns of the Tyrol and Vorarlberg. Twelve thousand dwellings are already under construction in these towns.

Refugees. The need for housing accommodation, especially in Great Britain, was also increased by the continuous stream of refugees

[1] *Finska Notisbyran.*

[2] *Sosialinen Aikakauskirja*—No. 10, 1940

from other countries. This problem is especially difficult because most of them have left behind all personal belongings and have very little money and no jobs.

Reduced Income and Rent Policy

Families of Mobilised Men

Families whose breadwinners are called to the Colours are, of course, most directly faced with a serious housing problem which, unless the authorities take steps to help them, will involve a decline in housing standards below the minimum advisable from the point of view of the physical and mental health of the people concerned. It is therefore only natural that in most countries special measures are introduced to safeguard the housing standards of these families.

The simplest measure is to grant a special housing allowance which, if possible, should be large enough to assure an appropriate housing standard for the families concerned but which in any case should be sufficient to enable them to maintain their former housing standard. This system is applied in Germany, where a special rent supplement is paid in addition to the basic family allowance granted to families of persons who are mobilised or called up for compulsory labour service.[1] The Housing Control originally fixed the rent supplement at an amount sufficient to provide the family with a dwelling appropriate to the position of the applicant and suitable from the point of view of the number, age, sex, and health, of the persons concerned. It is now, however, no longer determined in accordance with the family's need but is only sufficient to cover the actual rent of the present dwelling. When the family has a house of its own, an allowance to meet interest and amortisation as well as rates may be paid in place of the rent supplement.

Another system which is more elaborate, but also more elastic, is the complex system of rent reduction, moratorium, and permission to terminate the lease, which is arranged in accordance with the need of the tenant. These measures necessitate special consideration of the houseowner, whose income they are likely to reduce considerably. They were applied in France[2], where all mobilised persons who were unable to pay rent for their families were entitled to a reduction of up to 75 per cent. In view of the fact that the principle was "he who could pay should pay", the mobilised

[1] *Reichsgesetzblatt*, I, 1939, pp. 327, 1225, and 1563.

[2] *Journal Officiel*, 5 October 1939, p. 1224; see also *Journal Officiel*, 13 July 1939.

tenant lost his right to the 75 per cent. reduction if the landlord could prove that the tenant was able to pay the entire rent or an amount exceeding one-quarter. In order to free the mobilised persons from old debt burdens it was further provided that, if a mobilised tenant had arrears of rent at the outbreak of the war, the court could reduce the amount due or even cancel it if the tenant could prove that he was unable to meet his obligations. If the family, in spite of all these facilities, did not want to keep its dwelling, the mobilised man was allowed to terminate the lease during the period of mobilisation. Some households, for example, diminished so much that their dwellings were too big for the remaining parts of their families.

To compensate the landlords for the loss they suffered, the court could grant a moratorium both for amortisation and interest payments at the discretion of the judge. In order to receive such moratorium the landlord must have lost a large proportion of the income out of which he would have met mortgage and building debt obligations. In view of the difficulties arising from the war, the court could also free the landlord from his obligation to carry out repairs and other services which he would otherwise be obliged to undertake. Furthermore, a special Decree[1] reduced property taxes on houses from which the income was considerably decreased and in some cases abolished the tax on vacant dwellings. The last two provisions, freeing the owner from the obligation to carry out repairs and to pay taxes on vacant dwellings, were rather unfortunate because the repair and rearrangement of old dwellings were just the ways in which the need for additional housing accommodation could be met without withdrawing resources earmarked for the armament industries.

In the United States also facilities are given to tenants whose ability to pay is materially affected by military service. The Soldiers' and Sailors' Civil Relief Act of 1940[2] states that no eviction or distress shall be made except on leave of court in respect of any dwelling for which the rent does not exceed $80 per month occupied by the wife or other dependants of a person in military service. Similar provisions st pend the enforcement of civil liabilities arising from the instalment purchases of real property made by a person who has entered military service after the purchase took place.

As far as possible the principle that he who could pay should pay has been applied and the heads of the military departments are em-

[1] *Journal officiel,* 8 December 1939.

[2] Public No. 861, 76th Congress, Chapter 888, Third Session, S. 4270.

powered by the Act to order an allotment of the pay of the person in military service in reasonable proportion to discharge the rent of the dwelling occupied by his wife or other dependants.

In England as in most other countries no special measures have been taken to provide the families of mobilised men with adequate housing accommodation. The rent has to be met from the general allowance, but these families, as well as others who have had their incomes reduced, benefit, of course, from the general legislation which prevents an increase in rents.

Although all the above-mentioned measures may help to overcome the first period of emergency, they do not—as explained below —solve the problem of readapting the existing housing accommodation to the changing demand.

Other Families with Decreased Incomes

The measure most frequently adopted to secure a dwelling for any person who finds it difficult to meet his rent obligation in time of war is the prevention of an increase in the rent of existing dwellings above the pre-war level.

The argument in favour of rent control is that it prevents the exploitation of tenants in a period when rents have a tendency to rise because new construction is difficult, if not impossible. Without restriction, the owner of a dwelling, and especially the owner of a small dwelling for which the demand is particularly likely to rise, would find his income increased without any additional effort on his part. If there is a long-term mortgage on the dwelling, the owner's situation is likely to be improved particularly, because not only will the income from the house be increased while the service on the mortgage remains the same but an increase in prices will also leave him a considerable capital gain, since the interest charges will not rise in proportion to the rent.

Stability of rents may also help in the prevention of a rise in general prices. As wage rates and salaries in one way or another are adjusted to changes in living costs[1] — and rent accounts for 20 to 25 per cent. of the worker's total expenditure—an increase in rent of, say 25 per cent. would lead to an increase of 5 to 6 per cent. in cost of living and thereby in wages. This would represent an increase in production cost and lead to higher selling

[1] If wages were not automatically adjusted to changes in the living costs and the rent allowed to increase, a tenant relying on wages or salary for his income would see his real income, and consequently his general living standard, reduced.

prices. If prices are to be prevented from rising, the Government must counteract any increase in costs of production because an initial rise in costs tends to perpetuate itself through higher prices.[1] For this reason, rent restrictions were introduced almost immediately after the outbreak of the war in many countries. However, this policy proved during the last war to have many unfavourable consequences[2]:

(1) It hindered the distribution of the available supply of dwellings in accordance with the continually changing requirements of the existing households, which in many cases meant that State intervention favoured families of decreasing size rather than those of increasing size;

(2) It hindered the increase of nominal wages, which made the discrimination against young families of the working class with no dwellings of their own particularly pronounced, and placed an exceptionally heavy economic burden on the heads of young families[3];

(3) It hindered new construction of dwellings and the improvement of housing conditions in particular, thus having an unfavourable influence on workers' housing conditions not only during the war and the immediate post-war period but also during subsequent years.

In most cases, however, rent restriction legislation has not been applied with the same rigidity in the present war. This is not only due to the unfavourable experience referred to above but also to the fact that social and medical science during the last 25 years has influenced public housing policy by emphasising the importance of adequate housing accommodation for public health. As the provision of adequate dwellings for those who otherwise would be obliged to live below accepted standards becomes more and more the essential aim, it is realised that rent restriction alone is not a sufficient measure to solve the housing problem in times of emergency and that the more rigidly it is applied the more it hinders the attainment of the objective of housing policy mentioned above.

The modern form of rent restriction has its basic principle mainly in the idea that the owner shall be prevented from benefit-

[1] See E. R. WALKER and Margaret E. RILEY: "Australia's War Economy", in *Economic Record*, December 1939.

[2] See C. Major WRIGHT: "Housing Policy in Wartime", in *International Labour Review*, January 1940.

[3] The experience gained from the last war shows that where rent restrictions were introduced they were often used as a powerful argument against an increase in nominal wages; see INTERNATIONAL LABOUR OFFICE: *European Housing Problems since the War* (Studies and Reports, Series G, No. 1), Geneva, 1924.

ing from an increase in rents or land values which is not due to any effort on his part. It represents a change from the application of rigid rules to the application of more elastic measures designed to give special facilities to families who suffer from the war and to large families with especially heavy obligations.

An example of the way in which the rent restriction system has become more elastic is the establishment in many regions (e.g. Western Australia, New South Wales, and Norway) of a Fair Rent Board which, in special circumstances, in spite of the restriction can give permission to increase the rent. Another example is the legislation enabling tenants with changed housing requirements or falling incomes to cancel their leases. The next step, the encouraging of the transformation of large vacant dwellings to meet the present demand for smaller dwelling units, has, however, been taken in a few countries only (Germany and the United Kingdom). In abolishing the tax levied on vacant dwellings, the French legislation checked instead of encouraged this development.

Both the Belgian and the French restriction laws gave special consideration to those who suffered most from the war. The Belgian law allowed reduction of the rent if the tenant's income was reduced by 15 per cent. or more. The French law authorised any person whose income had been seriously modified by the war to apply for the same rights as were given to mobilised men. In Germany the Government decided that when a dwelling fell vacant preference should be given to families with many children in special need of housing accommodation.

The most important development of recent housing policy is not the modification of the application of the rent restriction legislation, however, but the fact that most Governments have come to recognise that the families whose numbers and incomes have diminished on account of the war have changed their housing requirements, and that this situation can only be met effectively through encouraging the transformation of large dwellings into a number of smaller standard dwellings or through the construction of certain forms of low-cost houses to meet the increased demand.

Government Policy Regarding New Construction

The policy followed with regard to new construction of dwellings differed at first from one belligerent country to another. In some countries it was considered that it would be possible in spite of the war to continue a certain proportion of house construction. In other countries Governments held the opinion that all construction

of dwellings had to be given up immediately. At first the difference of attitude was largely due to the fact that certain Governments expected the war to be of only short duration, while others expected it to be a long-drawn-out struggle in which economic strength would be of decisive importance.

As time went on and the importance of economic strength became more widely recognised, the attitude of Governments towards new construction of dwellings became more and more uniform. All new dwelling construction which did not strengthen the country's military and economic position was abandoned, but at the same time the construction of a large number of other dwellings was encouraged because they were considered of direct importance to the war economy.

Germany. For some years before the war, general economic planning in Germany had been directed towards preparations for war. The construction of new dwellings was allowed only a secondary place in this general plan. Building activity was at first checked by restriction of the credit allowed for that purpose. Experience showed, however, that such a check on the supply of capital was not very effective because capital succeeded in finding many ways of reaching the building industry. The credit restrictions were therefore abolished in March 1939 but were replaced by a control limiting the total amount of capital available for building loans and laying down the purposes for which loans could be issued. In 1939 loans were authorised for military buildings, buildings constructed under the Four Year Plan, agricultural workers' dwellings, industrial workers' dwellings, replacement dwellings for the development of German towns, and small homes (*Kleineigenheim*) up to 120 square metres of living space owned by the occupants. A still more effective method of adjusting building activity to war purposes and of controlling the construction of new dwellings was found in a complete control of the supply of labour and material for building purposes, centralised in the hands of the *Generalbevollmaechtigter* for the control of the building economy.

When the war broke out the labour and material available were concentrated on the completion of the buildings under construction. When a building had been commenced but war conditions did not allow its completion, measures were taken to provide the necessary material and labour to protect it properly. The construction of dwellings depends on the extent to which labour and materials are available after the demand for war purposes has been satisfied. According to the scale of urgency (*Dringlichkeitsreihenfolge*) laid down by instructions from the Reich Defence Council, by which

the labour force and building materials are distributed, the construction of dwellings for workers in industries of military importance is placed in the same class of urgency as the construction of the factory itself. The requirements of the war industries at the moment are so great, however, that it has proved necessary to house a large number of these workers in temporary dwellings, especially when the requirements have arisen suddenly or the factory is situated in a district where the need of houses is expected to be small when the war is over.[1] These temporary buildings may take the form of barracks, but it is considered preferable wherever possible to build dwellings of a more lasting character which later may serve as dwellings for low-income families. One of the advantages of building for more permanent purposes is that credits can be obtained in the free capital market; this would not be possible for the construction of temporary dwellings which would be of no use when the war was over.

To help the people whose living quarters have been destroyed by enemy attack special legislation has been enacted. An Ordinance, dated 11 December 1939[2], relating to damaged buildings[3], provides that houses damaged by acts of war, more especially by air raids, are to be repaired at once and made fit for use. Since the owners cannot always provide the necessary means, Government funds have been appropriated for the purpose.[4]

By an Order issued on 16 February 1940[5], rules were laid down for construction in 1940. Construction of new buildings was forbidden, with the exception of construction amounting to less than 5,000 marks and vitally urgent maintenance and repair works.[6] These exceptions make it possible to continue the activity of con-

[1] SCHMIDT: "Die Deutsche Wohnungswirtschaft im Kriege", in *Reichsarbeitsblatt*, No. 2, 1940.

[2] *Reichsgesetzblatt*, 13 December 1939.

[3] See also Ordinance of 8 September 1939 in *Reichsgesetzblatt*, 14 September 1939.

[4] Advances for the repair of dwelling houses can be granted, however, only when the public interest so demands. In the case of other buildings it must be proved that the repair is of urgent public interest and that the claimant does not possess the necessary means to carry it out. The amount of the payment must not be larger than the expenditure for an inexpensive and simple repair such as the present circumstances require. If the house is completely demolished the Government has no definite obligation to make any advance.

[5] *Reichsanzeiger*, No. 44, 21 February 1940.

[6] Apart from their ordinary importance, the last two exceptions are dictated by the desire to give employment to certain local workers who might otherwise become unemployed, especially during the winter months, and to owners of enterprises which are too small to undertake the work required for the more urgent constructions.

verting large dwellings into small ones and in that way providing additional housing accommodation. Such conversion, financed by public means, has been carried out for several years. Steps have also been taken to adjust the provision of public money for workers' dwellings to the changed conditions. In view of the significant increase in building costs noticeable in several parts of the country, the maximum limit of building costs and building loans has been raised for popular dwellings (*Volkswohnungen*) entitled to receive public loans, because the existing limits prevented the construction of dwellings with adequate rooms for families with many children.

United Kingdom. The British Government's measures for the reconditioning of dwellings damaged in war oblige the local authorities to see that sufficient free housing is available for the homeless in their districts.[1] Hence, they are given power to repair damaged houses and other buildings —either provisionally or, if possible, completely—whenever the owners or managers of such buildings are unable or unwilling to undertake the task. The Ministry of Health is prepared to grant the necessary loans to the local authorities. These loans are redeemable and free of interest for the duration of the war. The Government is to keep a stock of building materials in readiness for the purpose.[2] Since September 1940, it has been specified that in all cases of buildings destroyed or damaged by air-raids, first-aid repairs to ensure the safety of the structure and to protect it from weather must be undertaken at once. Construction vital for war purposes will, however, always have priority over permanent repairs as regards both labour and material.

Apart from this encouragement of necessary repairs, all other public civilian building activity was discontinued as soon as the war broke out. The local authorities which are responsible for provision of workers' dwellings were informed that for the present further slum clearance and development schemes should stop and that only houses already in an advanced state of construction should be completed.[3] In addition, a related ban on issues of private capital further checked

[1] See the Ministry of Health's circular letter to local authorities dated August 1939, the Housing (Emergency Powers) Act of 1939, and the Essential Buildings and Plants (Repair of War Damage) Act of 1939.

[2] As the houseowners will be more inclined to repair their damaged houses if they can obtain compensation when the war is over, the immediate supply of dwellings will be affected by the fact that the Government has issued a statement (*War Damage to Property*, Weir Conference, Cmd. 6116) that at the end of hostilities it will be prepared to pay the highest compensation possible, taking into consideration the country's financial situation and the total loss suffered.

[3] *The Times*, 11 September 1939.

all new civil building. According to the Defence Regulations of 3 September 1939[1], the issue of capital in the United Kingdom is forbidden except with the consent of the Treasury.[2] Treasury approval substantially limits loans issued to local authorities as well as to private enterprise. A comparison of loans issued in the fourth quarter of 1938 and 1939 shows a reduction of £4,750,000 in the approved loans to local authorities for housing purposes. Loans of £754,771 were approved in the last quarter of 1939.

In order to conserve labour and essential material for war purposes, the Government in September 1940 introduced complete control of civil building by making all such construction subject to licence. No licence is, however, needed for direct Government building activity or for building enterprises authorised by the Government and carried out by local authorities.

The credit ban on new houses was of course particularly inconvenient for workers occupied in the new war factories, the location of which had in many cases been decided (and the factory erected) without consideration of the need of decent housing for the workers employed.[3] The Minister of Health therefore decided that the construction of certain dwellings is in the national interest and, since houses necessary for the workers in new factories are among these, some 30,000 houses have been completed by local authorities.[4] The Minister of Health assured Parliament that proposals of further construction for similar purposes would be favoured although limited by the availability of building materials.[5]

Since then it has been recognised that not only armament factories but also agricultural work is quite definitely war work and arrangements have been made to give the utmost facilities for the construction of agricultural dwellings. The policy with regard to agricultural houses, therefore, is now not only to complete all houses which were under construction when the war broke out, but also to give every facility in the form of subsidies and materials to encourage the construction of new houses which the Ministry of Agriculture considers necessary for its agricultural programme. In

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[1] Statutory Rules and Orders, 1939, Nos. 1067 and 1620.

[2] An issue of capital is any issue of security (mortgage, charge or promissory note of a local authority), or any money loaned under terms or in the expectation of the later issue of securities.

[3] *Building Industry Survey*, Vol. V, No. 8.

[4] At the end of September the Treasury modified the Defence (Finance) Regulations so that to repay capital spent before 13 September 1939 local authorities might borrow from banks without reference to the Capital Issues Committee.

[5] *Parliamentary Debates, House of Commons*, 30 November 1939.

addition, the Ministry of Health will give all the facilities provided under the Rural Workers Housing Act for provision of additional accommodation.

It was explained in the House of Lords on 20 February 1940 that the Government's restrictionist policy regarding the construction of new dwellings at the beginning of the war was dictated by the view that almost all of the resources of the local authorities would be required for repairing the damage done in the country by air bombardment. Furthermore, the war demand for building material was at first expected to be much larger than has actually proved to be the case. Finally, it had been the opinion of the Government that it would be possible to use the building industry's normal capacity for war purposes alone, at least during the first six months.[1] But it was difficult for small local firms to make the transition from peace to wartime production, and in many cases it was impossible for small firms to fulfil war orders because single Government orders amounted to relatively large quantities. It was therefore suggested that Government requirements should in part be met by permitting builders to submit what may be termed "group tenders" by which a number of builders collectively undertook a contract for a much greater amount than any member of the group could execute individually.[2] The group system, however, is not generally in favour with the Government departments, mainly because of the additional time involved in arranging the tenders.

The Government policy for public works is to use small contractors wherever possible, partly in order to maintain existing resources in the building industry for the repair of air-raid damage. Works costing less than £20,000 are assigned to firms chosen from local bidders. For larger schemes, greater experience and equipment may be required for efficiency. But for works costing between £20,000 and £100,000, preference is given to firms which employ local men and supplies—either firms in the region where the work is to be carried out or companies which will sublet part of their work to local contractors. Although Government contracts were not at that time sufficient to maintain all existing building enterprises, public defence work would by that policy be spread as widely as possible over the entire industry.[3]

Since September 1940, when the steady air attacks began, the

[1] See the Minister of Health's answer to a deputation from the building industry, in *The Times*, 19 October 1939.

[2] In Germany, such a system, according to the *Zeitschrift für Wohnungswesen* (Feb. 1940), has been applied successfully.

[3] *The National Builder*, March 1940, p. 193.

Government's chief concern has been to build new shelters in order to protect not only the thousands bombed out of their homes but also residents of districts where the shelter system has proved inadequate.

On 23 September 1940, the Parliamentary Secretary to the Ministry of Home Security announced that the Government had made plans to put up 1,000,000 bunks in air-raid shelters for homeless persons. A number of shelters will be equipped with double or triple tiers of bunks, turning them into dormitories. They will be provided with improved sanitary arrangements and drinking water. The new shelters should yield protection not only against splinters and direct hits but also against cold and dampness and should ensure sound sleep to the occupants. These precautions are especially important because of the much worse conditions in winter weather.

In spite of the fact that construction is speeded up as much as possible, it will require some time, and the authorities plan, therefore, to meet immediate needs by placing at the disposal of the public industrial shelters which have been built in the factories for the use of the workers. These shelters, of course, can only be used by the public when the workers are not on the job. The basements of apartment buildings and occupied houses are to be used to the fullest extent. Many wealthy homes are already sheltering homeless refugees from the slums.

New Zealand. The New Zealand Government considers the building industry not only as a key industry in the maintenance of a balanced national economy but as one of the most important and successful of its activities. It has accordingly made provision for the expenditure of £4,000,000 on housing during the present fiscal year. In indicating the Government's reasons for adopting this policy, the Minister of Finance stated that not only was there a housing shortage at the present time, but any curtailment of construction during the war would invariably result in still more serious difficulties when the soldiers returned from overseas.[1]

France. A French Decree[2], introduced immediately after the outbreak of the war, suppressed the granting of interest bonuses, which had been one of the most important measures encouraging the construction of buildings.[3] The importance of these bonuses was shown by the fact that on the date when they were abolished the Minister of National Economy had received almost 30,000

[1] New Zealand Budget 1940.

[2] 4 October 1939.

[3] For these bonuses, see Decree Laws of 25 August 1937 and 2 May and

requests from applicants who wanted to benefit from them, and their suppression resulted in an almost complete standstill of the building industry.

The Government realised, however, that a certain amount of dwelling construction was necessary even in wartime. A Decree[1] concerning the control of the construction and building industries in wartime was therefore issued, providing for a special service in the Ministry of Public Works. This service was under the direction of a general commissioner. He indicated the enterprises whose continued activity should be safeguarded, authorised the entrepreneurs to employ workers and material according to the requirements of national defence, and decided in consultation with the military authorities the priority which should be given in the requisitioning of materials necessary for the maintenance of building activity.

The dwellings of immediate interest were those for the workers of decentralised factories. The decentralisation of industries which becomes urgent under war conditions is often faced with very great difficulties on account of the lack of suitable dwellings for the workers. This problem was in most cases solved only by the construction of barracks, which were directly or indirectly paid for by the State, but usually the standard of comfort in them was low. A more effective method was to grant certain financial advantages to firms in order to encourage them to construct permanent dwellings for the workers whose activities were expected to continue after the war, on the condition that these dwellings met certain standards of comfort and price.

For this purpose a Decree was issued on 9 March 1940, setting up a Commission for Workers' Dwellings in the Ministry of National Defence. This Commission, which included representatives of the Ministries of Finance, Armaments, Air, Public Works, Health, Agriculture, and the Admiralty, was to study and co-ordinate all the plans for the construction of permanent dwellings for the workers of private decentralised factories and submit the projects to the Ministry of National Defence for approval. The equalisation fund for the decentralisation of the aeroplane industry and also the similar credits of which the different Ministerial departments disposed could on the approval of this Commission be used for the construction of permanent dwellings, provided that the representative of the Minister of Finance had no objection. In order to encourage the construction of permanent and healthy dwell-

[1] 9 September 1939.

ings in the neighborhood of factories already decentralised[1], the owners of decentralised factories which undertook the construction of such dwellings were allowed Government loans on easy terms.[2]

United States. The United States fully realises that the construction of new homes for the armed forces and the defence workers has to be carried out simultaneously with the defence programme. At the outset, the President declared that two main objects would govern the defence housing programme: (1) to get as much private capital as possible into the job, and (2) to clear as many slums as possible. The first important step towards the evolution of the defence housing programme was taken in the appointment of the Defence Housing Co-ordinator (Mr. C. F. Palmer) by the National Defence Commission.

In accordance with the President's objectives, the Co-ordinator divided the field of construction into spheres of private and public initiative. To the private sphere of the building industry is assigned the entire effective demand, that is to say the housing of all persons who are able to pay market rental. Every step is taken to forestall any influence which would prevent private industry from fulfilling its obligation and making the most of its opportunities. The investment of private capital is encouraged by preventing persons who are able out of their own means to obtain adequate dwellings from benefiting by subsidised construction. Private industry will get full opportunity to avail itself of the Federal Housing Administration mortgage insurance and the facilities of member savings and loan associations of the Federal Home Loan Bank system.

The public sphere is administered by four different authorities:

(1) The Reconstruction Finance Corporation provides equity capital to the amount of $10 million for rental projects in areas where the need is acute. These funds can be supplemented to the extent of $40 million by Federal Housing Administration insured mortgages. Resale of equities as rapidly as possible is contemplated

[1] The dwellings constructed had to satisfy certain technical and financial conditions which were to be determined by a special Decree.

[2] Some of the principal considerations taken into account by the Commission for Workers' Dwellings in dealing with the various projects submitted were: (1) the nature of the industries and the order of their importance; (2) the nature and duration of the advances granted; (3) the maximum cost for the construction of each individual dwelling; (4) the minimum and maximum rate to be charged and the conditions to be provided for the housing of large families. The houses were intended to be let to families rather than to single persons. The workers were to be given the right to buy them by paying a supplement of 50 per cent. of their annual rent during a period of 16 years.

(2) The United States Housing Authority allocated about $31 million for 25 defence housing projects from 25 June to the end of October 1940. This agency is proposing to help local housing authorities in communities where defence housing is needed for families of low income who are unable to pay market rental.

(3) The Armed Forces provide housing for married men among the enlisted personnel and civilian workers at army and navy plants. For this purpose, an amount of $100 million has been authorised in addition to amounts falling under the category of direct military expenditure allocated to housing the military forces.

(4) The Federal Works Agencies handle the appropriation of $150 million authorised by the Lanham Act[1], for housing industrial defence workers, enlisted men, and army and navy employees. This provision will cover temporary needs for which none of the other measures is prepared to provide.

It is estimated that about 180,000 dwelling units will be required to meet the special needs of the defence housing programme. This is about 50 per cent. of the total number of dwelling units built in urban areas in the United States in 1939. The construction of that number of houses would involve a capital outlay of $700 million. Of this amount, only $300 million will be available through public agencies; the remaining $400 million is expected from private industry.

To prevent labour costs from hampering the defence programme, an agreement was made on 14 September 1940 by which building trade unions throughout the country provided for double shifts of labourers and mechanics at straight time wages on defence housing projects financed by the United States Housing Authority. It is estimated that the agreement to work on double shifts at straight time on an 8-hour day, 40-hour week basis will reduce the building time by half without substantially increasing costs.[2]

The Relation of Building Costs to New Construction

The influence of rising costs on new construction can be seen from the developments in the first months of the war when a number of neutral countries did not take official steps to check construction. The number of building permits issued during the first war months compared with the corresponding months in the preceding year showed that the economic disturbances caused by the war led to a decline of building activity of 89 per cent. in Belgium and

[1] Signed on 14 October 1940.

[2] *New York Times*, 14 September 1940. See also *American Federation of Labour News Service*, 24 September 1940.

the Netherlands, 47 per cent. in Switzerland, 46 per cent. in Hungary, 36 per cent. in Norway, 31 per cent. in Denmark, and 10 per cent. in Bulgaria.[1] This is partly due to the rise in building costs and partly to the fact that a large majority of people expect costs to return to the pre-war level.[2] In November 1939, building costs in Sweden were about 8 per cent. higher than before the war.[3] In other countries, which had to import wood and iron, they had risen still further by November. In February, they were 22 per cent. above pre-war levels in the Netherlands, and 25 per cent. in Denmark.

An analysis of the different cost items proves that the prices of iron and timber, for which the building industry has to compete with armament activities, have shown a pronounced increase in all countries. Interest rates have risen in most countries, and in many cases even more than other building costs.

Statistics of the interest charged on building mortgages are not yet available, but the following table of the yield of Government bonds may give some idea of the movements of interest rates.

PERCENTAGE YIELD OF GOVERNMENT BONDS[1]

Date	Belgium	Denmark	Italy	Norway	Netherlands	Rumania	Sweden	Switzerland	Yugoslavia
August 1939	4.26	4.68	4.84	4.41	3.61	7.15	3.04	3.85	6.97
February 1940	4.52	5.77	4.82[2]	5.21[2]	4.08	8.24[2]	4.00	4.28	7.13
Percentage increase from August 1939 to February 1940	6.1	25.2	−0.41	18.1	13.0	15 2	31.6	11.2	2.2

[1] LEAGUE OF NATIONS: *Monthly Bulletin of Statistics*, March 1940, p. 106.
[2] January 1940

[1] See BANQUE NATIONALE DE LA BELGIQUE: *Bulletin d'Information*, March 1940; *Tijdschrift voor Volkshuisvesting en Stedebouw*, March 1940; SCHWEIZERISCHE NATIONALBANK: *Monatsbericht*, March 1940; *Bericht des Ungarisches Institut für Wirtschaftsforschung*, No. 44, 1939; *Statistiske Meddelelser*, Nos. 1-2, 1940; *Statistiske Efterretninger*, February 1940; *Bulletin mensuel de la Direction Générale de la Statistique*, 1939, No. 12.

[2] A similar attitude was taken during the last war; in the Netherlands, for instance, it was considered so certain that building costs would return to the 1914 level that a Royal Commission, the Vliegen Commission, was appointed to investigate how it would be possible to write off the extraordinarily high costs of houses built in the war period (*Economisch Statistische Berichten*, 8 November 1939). It is strange that most people still expect costs to return to a pre-war level because the experience of the last war showed that for at least one decade after the conclusion of peace both building costs and interest rates remained about 100 per cent. above the pre-war level.

[3] *Statens offentliga utredningar*, 1939: 50, pp. 49, 54.

No statistical information is available with regard to prices of building sites. In so far as it is possible to judge from the scanty information available, prices have not shown any tendency to decline even in countries where building activity has been most reduced.

These facts clearly show that in order to maintain building activity, even in non-belligerent countries, Governments will have to encourage the construction of low-cost housing. The fear of a further rise in prices of building materials may increase the prices that builders are prepared to offer. To prevent such increases in building costs some Governments undertake to pay a proportion of the loss which would occur if prices of materials increased after the submission of the tender.[1] Another method of keeping building costs down is control of the prices of building materials. In Peru, a law prohibits any increase in the price of building materials. In Australia, a gradual increase is allowed, but prices may rise only in step with the average cost of the stock of material kept by the dealer in question. How far it is possible to obtain sufficient building materials at the official price depends largely on the conditions ruling in the local market. Under the assumption of a perfect competitive market, a price control which forces prices below equilibrium level will naturally result in a decreased supply. If, on the other hand, a price cut is forced upon a market of imperfect competition, the producers will, in order to maximise their profits, generally have to increase production. As monopolistic tendencies have been very pronounced in building materials, such as cement, glass, linoleum, and steel, it may be expected that price control, if effective, will have a favourable influence on the quantities supplied.

In countries where the shortage of foreign exchange before the war had already made it necessary to reduce imports of building materials, preference in the distribution of import licences was often given to builders of low-cost houses. This preferential system was also adopted in countries which the outbreak of the war forced to introduce foreign exchange control.

When a war leads to increased building material prices and thus to a decline in building activity, the Government may prevent a decline by reducing the customs duties on imported material and in that way reducing building costs. In countries in the position of Colombia, where imports of building materials are restricted by means of heavy duties, materials for low-cost housing are in certain

[1] In the Netherlands the Government pays 85 per cent. of the loss suffered by the entrepreneurs executing public constructions. (*Economisch Statistische Berichten*, 18 November 1939).

cases exempted from duty. When the import of any building material, for instance timber, has been reduced to a minimum, the public authorities may prevent the consequent shortage from becoming a too serious obstacle to building activity by encouraging enquiries as to which types of local material may be used as substitutes without undue inconvenience or increase in costs. Enquiries of this type carried out in several countries during recent months show that, with the exception of door and window frames, wood can in most cases be replaced by other materials.

Costs of Land

As the price of the building site represents about 20 per cent. of the total building costs of urban dwelling property, measures to reduce the cost of land are likely to have a considerable influence on building activity. When other building costs are rising, the national and local government land policy consequently becomes increasingly important. If sufficient space is available for gardens, sports, and playgrounds, it may also be possible to economise on the installation of many expensive accommodations which the abundance of air and light make less necessary.[1] In towns where the municipal authorities possess much land they are able to influence the price by offering part of this land on favourable terms as building sites for low-cost housing.

A more commendable method is, however, an increase in the increment value tax on building sites. Such a tax would provide money for housing and other Government purposes at the same time as it would discourage an inflation of land values. In wartime, when other forms of investment are heavily taxed and all groups in the population are making great sacrifices, there is reason to prevent speculative profit from the sale or use of land, the more so as land value is particularly dependent on community development and policy, rather than on individual effort.

Since urban land values are dependent on city growth, zoning policy, municipal planning, and public works, it is only natural that the community should be permitted to share in the resulting rise in land values. Furthermore, increases in land value or land rent represent an increased ability to pay, which has so far remained largely untaxed in most countries. If part of the expected tax were capitalised and deducted from present sales value, the tax would actually result in cheaper land for housing, but in any case the tax would encourage housing activity since it would either prevent land

[1] See below, p. 145.

prices from rising or provide funds for public housing projects. It would be especially valuable in a period of increasing Government expenses, when it becomes more and more difficult to finance public housing, since it prevents Government subsidies from being used to pay slum landowners for fictitious values.[1]

Favourable conditions for the working of the tax on increased land values are well demonstrated in Denmark, where an accurate valuation of land was carried out in 1927. The introduction of the tax clearly proved that landowners become more willing to part with their land property.

Interest Rates

Another cost item, the reduction of which would considerably encourage building activity, is the interest rate. In certain countries—for instance, the Argentine Republic, Uruguay, Cuba, and Italy—the Governments have authorised the investment of funds in low-cost housing at very low rates. In Sweden, a committee investigated the critical state of the building industry and recommended alternative aids to building in a report submitted in December 1939. This committee suggested that in order to prevent a temporary rise in the rate of interest from having any influence on the rent level, it would seem an obvious measure to adjust the yearly rate of redemption to the movement of the interest rate so that the rate is small when the interest is high and *vice versa*. This implies that the total cost of loan services will not be higher than it was before the outbreak of the war. If the public authorities have no means available of allowing the redemption period to be prolonged in the way suggested above, they may prefer to guarantee third mortgage loans for low-cost housing.

Another measure which has been applied with a view to maintaining the construction of low-cost housing is to decrease the quality and in that way the cost of construction of each individual dwelling built by public authorities or with their support in order that a larger number of families may benefit from the means invested. This is a dangerous policy, however, because the standard of quality which it has taken several years' experience to build up might be seriously lowered. In times of emergency something can be done to reduce expenses for labour-saving machinery and implements

[1] To illustrate the enormous rise in the value of urban land which may occur over a period of rising prices, it may be mentioned that the Swiss national wealth in urban land in 1913 was 3.83 milliard francs, while in 1928 it had increased to 6.00 milliard francs (J. WYLER: *Volksvermoegen, Handbuch der Schweizerischen Volkswirtschaft*).

(washing machines, garbage chutes, etc.), but these possibilities are limited because much female labour is drawn into war work.

It may also be possible to replace a big bathroom with an installed bath tub by a smaller and comparatively cheaper shower bath apparatus. As a result ot enquiries made in recent years, it has been found that temperate and frequent showers are a healthier form of bathing than the usual form of a hot bath taken in a tub.[1]

Tax Exemption

Among measures to encourage the construction of dwellings, tax exemption may play an important part because it involves no direct outlay from depleted national treasuries. In order to encourage building, several Governments have considered the introduction of tax exemptions for dwellings built during the war. The exemption, accorded to homes of a given minimum standard of hygiene and comfort but not above a certain rental or sale value, allows some control of construction plans. Tax exemption is not a new method, and it has been applied in most countries, especially in periods when large economic resources were unemployed and the budgetary situation did not allow direct subvention to the building industry. Such a situation existed in some countries after the last war and during the depression. If the tax exemption helps unused resources to find employment, the measure does not involve a diminution of the State tax revenue since additional income is created on which new taxes can be levied.

In Hungary an Ordinance was introduced in the spring of 1940 exempting houses to be built by Government agencies from the land tax. Other houses built for the lowest incomes groups or their dependants, conforming to set standards and let at a maximum rental not over one-third of the tenant's income, were declared exempt for a period of 15 to 30 years. The exemption was in some areas to be absolute for 15 years and partial for the following ten years.

In the Argentine Republic, recent proposals included exemptions from the territorial contribution of all the property of the National Housing Commission. Such property was exempted from taxes for city lighting and cleaning. Homestead property under 10,000 pesos in value was also exempted from the territorial contribution. The Province of Tucuman passed a law freeing houses built by a Government

[1] A statement to this effect was made by Dr. J. Axel HOJER, Director General of Public Health in Sweden, before the Housing Commission of the Health Organisation of the League of Nations in June 1939. See LEAGUE OF NATIONS: *Bulletin of the Health Organisation*, 1939, Vol. VIII, Nos. 4-5, pp. 733-796.

housing agency from the provincial land tax for 25 years after construction. In Cuba, new buildings constructed from 1939 to 1941 are exempt for a period of 5 to 10 years according to their ratings as satisfactory dwellings. The exemption applies to land taxes and building permit taxes, and includes a 33 per cent. reduction in water charges. For rented apartments, the reduction in water charges applies only if a 25 per cent. reduction in rent is made and remains in force.

As building costs, in spite of all measures taken to reduce them, are still considerably above pre-war levels, a Swedish proposal suggests that the public authorities should distribute the consequent increase in the rent of low-cost houses between all existing Government-subsidised dwellings in order that young families who want to set up new homes shall not be faced with higher rents than were paid by those who were already in possession of dwellings when the war broke out.

Housing Policy and Economic Mobilisation

In neutral countries, where the need for new construction is just as great at the moment as it is in normal times, the considerable decrease in the supply of new dwellings has to be counteracted. In order to prevent housing standards from deteriorating seriously, Governments have therefore decided to take measures to encourage the construction of low-cost houses. This is particularly desirable because in most neutral countries large resources, particularly of unemployed labour, are available.[1]

The Swedish report[2] mentioned above emphasises that the recent decline of building activity has set free a number of workers who cannot be absorbed by the expansion of employment in other branches of industry which have now become more urgent. From the point of view of the national economy, the "saving" that would result from a restriction of house building therefore becomes illusory.

In the belligerent countries the problem is naturally still more serious. First, the need for additional housing accommodation is very much larger in wartime than in peace-time. A number of dwellings become uninhabitable, either through destruction or because they are situated in danger zones. Households are split up, soldiers need living quarters, and so do the large numbers of work-

[1] In Sweden, for example, the decline in new investments in buildings is large enough to cover considerably more than the Government's additional new investments for defence purposes.

[2] *Statens offentliga utredningar*. 1939: 50.

ers who are forced to follow the decentralisation of the armament factories. Secondly, the demand for houses is more urgent in the belligerent countries than in the neutral countries. If doctors and scientists are right in emphasising the great influence of housing conditions on health and morale, then adequate housing accommodation is still more necessary in wartime, when the issue of the conflict partly depends upon morale and physical strength. The significance of satisfactory housing conditions, especially for the health of the younger generation, was demonstrated in Finland in 1939, when the death rate among the children evacuated to the northern parts of the country increased enormously largely because these districts were lacking in hygienic accommodation and hospitals.[1]

The difficulty lies, however, in the fact that, at the same time as the need has increased, the means to bring about an adequate supply have decreased considerably because both labour and capital are required in greater amounts for other war purposes. The question therefore is to what extent the construction of low-cost housing is compatible with an efficient war economy.

If in a country there exist considerable unused resources both of labour and capital, the construction of new dwellings would rather strengthen than hinder effective war economy. Not only would the building industries provide dwellings for the workers in the war industries but later, when peace-time industries were again able to absorb more workers, those who meanwhile have become employed in the building industry would be easier to transfer to peace-time work than if they had remained unemployed.

In Germany, it has been decided to maintain building activity in order to occupy the large-scale industrial enterprises as well as the 70,000 medium-sized and small ones which it is difficult to employ in the type of construction which the war makes necessary. In the other belligerent countries unemployment among building workers and building entrepreneurs was considerable especially at the beginning of the war. In the United Kingdom, the number of unemployed operatives in the building industry was 164,000 in September 1940, according to the *Ministry of Labour Gazette*.[2] At the same time the architects and contractors were not fully employed, and the manufacturers of building materials had experienced a severe decline in demand, leading in some cases to a complete closing

[1] The national relief commission in Finland—Finlands Folkehjaelp—has, in order to face this serious situation, decided to construct immediately new housing accommodation in these districts, especially hospitals, planned to house about 1,400 children.

[2] January 1940, p. 21. In August 1940 the figures had fallen to 56,000, a far more than seasonal improvement.

down of works.[1] In France the number of unemployed in February 1940 was 50,000 in the building industry; 20,000 of these were in the metropolitan area.[2]

If the military authorities want to keep the temporarily unused labour and capital as reserves, this can be done better by employing them temporarily in industries from which they can quickly be shifted when required elsewhere than by keeping them idle. The difficulty of keeping unused capital resources ready for war purposes by employing them in the building industry is, however, that only a very small part of the invested capital will each year be available as free capital ready for new investments. It is, therefore, important to employ the unused labour resources in special forms of building industries requiring as little capital as possible. This can, for example, be done by changing larger unused dwellings into smaller ones. This policy will have an especially favourable effect on general housing standards because it is not so much the number of persons as the number of households which is rising. This means, of course, that the rising demand is concentrated on small dwellings and that many larger ones will be empty or only partly used, thus waiting for the necessary labour force to transform them into smaller dwellings. Where there is no scarcity of capital and material within the country but only of foreign assets builders must try to utilise the material to be found at home as a substitute for foreign material in order that very little foreign exchange may be required. In many cases concrete can, for example, replace iron, and in certain cases even timber. In countries where timber is abundant it has been used as a substitute for iron.[3]

If, on the other hand, all resources, labour as well as capital, were fully utilised, there is, of course, no doubt that an increase in building activity would mean a decrease either in production for war or for other civil purposes than housing. As the construction of dwellings involves a great demand for capital, which is also the essential factor in the requirement of the war industries, it is likely that war economy and building activity in some cases will have to be considered as alternatives.

With regard to the evaluation of the urgency of demand, it has, as mentioned before, been emphasised in most belligerent countries that dwellings for workers in the important war industries are considered in the same class of urgency as the construction of the

[1] *Building Industries Survey*, Vol. V, No. 8, February 1940.

[2] PICARD: "Il faut bâtir", in *Bâtiment et travaux publics*, 5 February 1940.

[3] According to a Swedish enquiry it was found that the amount of iron needed to construct a certain building could be reduced from 300 tons to 95 tons by replacing iron with timber where practicable.

factory itself.[1] In Great Britain it has been recognised also that agricultural work is war work. Therefore, the utmost facilities have to be given for the construction of dwelling houses for agricultural workers.

The scarcity of skilled workers in the armament industries, which takes a long time to overcome by the training of new workers, makes it necessary to increase production with the available labour force. The construction of new dwellings near the decentralised armament factories, which prevents the loss of valuable time spent in long and tiring travel to and from the workers' homes, is therefore an important measure for the intensification of armament production.

It is thus seen that even in the hypothetical case of full employment of all productive resources certain forms of dwelling construction will have to be maintained. The Finnish statement concerning the declining health of the evacuated children also shows that if a war can be expected to last more than a short period, the employment of productive resources in the construction of housing accommodation for evacuees and defence workers and of shelters for air defence will save just as many lives, especially of children, as if they were employed in direct war activities. The danger of epidemics will be considerably diminished if housing conditions are sanitary and adequate. If they are not, not even the most developed medical science will be able to prevent the spread of diseases.

Much will therefore be gained if a sharp distinction is drawn as quickly as possible between the building activity a Government can afford to suppress and that which, in all circumstances, it will have to maintain. The distinction must be drawn individually for each country in accordance with its special needs and its available productive resources.

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[1] The experience of the United States indicates the magnitude of the loss of production arising from housing shortage. The Twentieth Century Fund says in its recent report, *Housing for Defence* (pp. 4-8), ". . . many shipyards and munition plants found the supply of local labour insufficient for their needs. They offered high wages to draw workmen into the locality. Soon all available housing facilities were filled. Men often worked for a few days and, unable to find accommodations, then left town. There was an enormous turnover of labour and loss of efficiency. A labour turnover rate of from 500 per cent. to 1,000 per cent. per year was reported. Men were forced to live in overcrowded conditions. Many had to live away from their families because they were unable to find dwellings. Boarding houses for single persons were full. Rents rose rapidly. As a result, manufacturers of raw material, faced with a high labour turnover and the discontent, ill health and inefficiency of the working force could not produce essential war materials in the quantities and at the speed required by the Government."

Pre-Fabricated Houses and Wartime Requirements

In order to integrate essential building activity into the planned war economy, pre-fabrication methods are especially useful. In an emergency period like the present, when additional housing accommodation is a most urgent need, the time required for new construction is particularly important. The pre-fabrication method, in which the technical skills have been concentrated in the factory produced units, lends itself to rapid erection of dwellings by unskilled labour and is therefore of the utmost importance at the present moment. The period of construction is short, and only a minimum of local workers, housed in the neighbourhood, is required.

In order to provide shelter for the German troops and the Norwegian population whose homes were destroyed during the war in Norway, a large number of Swedish pre-fabricated wooden houses valued at approximately $1,000,000 will be delivered to Norway under an agreement reached between the German Government and a Swedish firm. Payment is provided for through the German-Swedish clearing agreement. It is worth noting that for the same house, the Norwegians have to pay a higher price than the Germans. Provision is made for the delivery of still more houses later on in the year.[1]

The Finnish Government is faced with the difficult problem of constructing a great quantity of dwellings for immediate use. New homes are needed to house 12 per cent. of the population. There are 420,000 Karelians along with 15,000 from the areas of Sala, Kuusamo, and Hango, who fled from the ceded territories with only a few personal belongings and who now have no homes to return to. The Government, realising that this problem is the most pressing of those it has to solve, has started to clear large Finnish swamps and forests and has made direct grants of cash for emergency relief by allotment of dwelling lands and work tools. Two thousand pre-fabricated homes (a gift from the Swedish Government) are being erected in sections outside Helsingfors. Private gifts from Swedish citizens have provided another 150 homes for Eastern Karelians, and Finnish sawmills are now turning out thousands of pre-fabricated houses ready to be assembled. They are chiefly two-room wooden structures.

This is not the first time pre-fabricated houses have been used in an emergency period. As early as 1908, when Etna erupted and thousands of homes were destroyed in Messina, the Italian Government bought a number of pre-fabricated houses from Swe-

[1] *New York Times*, 29 September 1940.

den to lodge the unfortunate people whose homes had been destroyed in less than an hour. It is therefore surprising that pre-fabricated houses are used as little as they actually are to solve the problems of the present emergency.

The place occupied by the problem of defence housing in the United States provides striking evidence as to the importance of the pre-fabrication method. Such essential activities as the training of soldiers and the speeding up of armament production will have to be held up or delayed because a satisfactory solution of the consequent housing problem takes time. If pre-fabricated houses were ready, necessary accommodations could be erected within a week in the quantity and at the place required. Later on, if all these houses should not be needed at the same place or for the same purpose, it would always be possible to transfer them to other localities or convert them to serve other purposes. The Navy is conducting a test under contract in Norfolk (Virginia) whereby dwellings are put up on a factory basis; parts are constructed under shelter at the site and swung into place by cranes, reducing costs and time simultaneously.

The Canadian Government has also given much consideration to pre-fabrication methods in its attempt to remedy the acute housing shortage in districts where wartime activities have caused a sudden influx of population. It is expected that the Department of Finance will introduce a plan whereby pre-fabricated houses will be purchased on easy terms and the Department of Munitions and Supply will arrange for the production of the dwellings.[1] The pre-fabricated sections will be made in the factories, shipped to their destination, and there erected in a few days. These structures will be very cheap and will have the further advantage of being movable. When the war is over and those activities which were responsible for their erection are terminated, they can be removed and re-erected elsewhere.

As an American writer, in a recent discussion of housing for defence[2], says: "A solution of this problem can be found in the erection of temporary housing—not temporary in the sense of makeshift or jerry-built or impermanent, but in the sense of being easily movable from one town to another. This can be done by pre-fabrication by the manufacture of standardised houses or standardised sections and parts capable, for example, of being bolted together or unbolted and put on freight cars for shipping elsewhere . . . The need is certain, it exists on a huge scale, the funds avail-

[1] *The Gazette*, Montreal, 6 October 1940.

[2] "Housing for Defence", in *New York Times*, 12 September 1940.

able are commensurate with the need. Here is a unique opportunity for the Army and Navy, for engineers and architects' associations and industrial designers, for Government agencies and private industry, to collaborate in working out simple standardised portable pre-fabricated housing."

One of the chief reasons why the possibilities of pre-fabrication methods have not so far been fully realised, is that until the present time advance orders have not existed on a sufficient scale to make mass production profitable. Public authorities are able, however, to take full economic advantage of the pre-fabrication method because they can place a sufficient number of orders to carry out production on a scale near the actual optimum.

No one can doubt that an enormous social reorganisation and planning will have to be carried out immediately after the war. It is equally certain that in almost every country a comprehensive housing scheme will form an integral part of the social programme for the post-war years. This idea was obviously in the mind of the Chairman of the Works and Building Priority Committee (England and Wales)[1], when he stated that the lesson in organisation and technique taught by the war should afterwards be used to carry out the gigantic British work of reconstruction, which should be planned to provide every dwelling with sufficient space and sunlight and to facilitate sufficient movement between different areas. Such a plan will be more successful if the immediate and urgent war needs have been satisfied by pre-fabricated houses which, as soon as the war is over, can easily be removed and readapted to other purposes. Building capacity created in the inevitable haphazard fashion of a war period will not then hamper plans for solving the post-war housing problem.

[1] *The Times*, 25 September 1940, p. 4.

The Effect of War on the Relative Importance of Producing Centres

with Special Reference to the Textile Industry

by

Edith Tilton DENHARDT

International Labour Office

The Second Labour Conference of American States, held at Havana in 1939, adopted a resolution requesting the International Labour Office to undertake a comprehensive study of the social effects of the changing centres of production, with special emphasis on industrial relations in growing centres of production and such problems of readjustment as arise in already established centres of production. The textile industry is the most widely distributed manufacturing industry in the world and one of the most important industries from the standpoint of the number of workers employed and the value of goods produced. The International Labour Office has given particular attention to the social and economic problems of this industry, especially since the Tripartite Conference on the Textile Industry was held under its aegis in 1937. The following article, after a general analysis of the way in which war affects world trade and the relative position of manufacturing centres, describes the effects of the war of 1914-18 on the textile industry and examines the problems resulting from the present war.

IN peace time, industry is continually adjusting itself to changes in the conditions of supply and demand. When war breaks out these conditions are abruptly and violently altered. Naval warfare, blockades, and the severance of relations between enemy countries, sharply dislocate normal trade. Widespread changes in both civilian

and Government demand alter domestic market conditions. The lack of complete mobility of the factors of production prevents a smooth change from peace-time to wartime conditions and temporary maladjustments arise. Since the outbreak of a war involving great industrial countries has profound repercussions in the most distant areas, these maladjustments occur in all parts of the world. In time, industrial organisation adjusts itself to the new situation and the war effort is then in full swing. When peace returns, industry is faced with another series of abrupt changes, but the conditions to which it has to adjust itself are very different from those that existed before the outbreak of the war. The positions of the various industrial centres of the world in relation to each other are therefore greatly modified.

The structural changes that occur during war are influenced by the trends existing in the industry before the outbreak of war. In some cases, particularly in belligerent countries and in countries close to the site of the conflict, these trends are retarded or reversed. When the war involves important industrial nations, industrial development in other areas of the world will be stimulated, and existing trends may be accelerated. This acceleration, however, is frequently so rapid, and the nature of the changes taking place is so obscured by the clouds of war, that little adjustment takes place, least of all in the countries whose whole attention is devoted to winning a war. Consequently, developments that in peace-time might have caused relatively little dislocation may cause widespread maladjustment when they occur during war.

War affects the relative importance of different producing areas in the same industry through its effects on the prices of the factors of production, including raw materials, the difficulties which it puts in the way of international trade, and the changes which it causes in the demand for the raw material and for the finished product. It affects the relative importance of different industries through the incentive it gives to the search for substitutes, and through the creation, in response to war demand, of industrial capacity in excess of that required in peace-time. Increased prices, increased difficulty in supplying markets, and increased demand, resulting in a greater relative scarcity of any product, will stimulate the search for a cheaper product which will perform the same function. The desire of a country which is at war or expects to be war to become independent of imported raw materials and finished products will encourage the search for substitutes.

Modern war tends to decrease not only the mobility of the factors of production, but also the mobility of goods and services

throughout the world, because of the barriers it erects in the way of trade. The course of international trade in any given commodity may be affected by war in four ways. First, the destruction of the means of transport, such as ships and railways, an effective blockade or boycott of a belligerent country's goods by other belligerents or by neutrals, or the diversion of the productive resources of the countries at war from producing for export to producing for war purposes, will make it impossible for goods to be transported by one or more nations in the same quantities or in the same direction as before the war. War has thus the effect of a trade barrier, but differs from ordinary trade barriers in that its importance for each country varies with the degree of danger involved for shipping. Secondly, increased costs may so affect the competitive position of some nations that because of higher prices they lose their markets to other countries producing the same commodity. On the other hand, the increased price may result in the substitution of a similar commodity or of a similar raw material for the original commodity. This means a shift in the relative importance of different industries or raw materials, but does not necessarily involve a geographical shift. Thirdly, a change in international boundaries resulting from war involves a change in the effect of tariff barriers on industries and thus affects not only the conditions of supply but also the conditions of demand. Even if national boundaries remained unchanged, the establishing of closer economic relations between groups of countries and the reduction of trade barriers or the creation of customs unions among these groups would have an effect similar from an economic point of view to the effects of changes in political boundaries. Fourthly, the actual destruction of equipment within an area which previously exported a commodity will of course prevent that area from producing and exporting the same quantities as it did before the war until the equipment is replaced.

The increased costs may be costs of production or costs of transport. In the belligerent countries, and in many non-belligerent countries, the price of labour in the textile industries may rise because the demand for men in the army and in the munitions industries may reduce the supply available for the textile industries, and because increases in the cost of living may make wage increases necessary. If the war lasts very long, costs may rise owing to depreciation of capital equipment and increased costs of replacement. Transport costs are increased because of the greater risk, and the importance of this risk will vary with the geographical location of the producing centre in relation to the war. If there is much destruction of transport equipment or menace to shipping, necessitating

convoys, there will also be the problem of rationing shipping space, and the raw materials not important for a war economy will be restricted to a greater extent than others. In a country without domestic raw materials the increased risk of transport and the destruction of railways and ships may increase the cost of the raw materials imported. The effect of this difficulty on the various centres producing raw materials will be unequal, thus modifying their relative importance. The non-belligerent countries may find their transport systems disrupted in the same manner as the belligerent countries if they are close to the war zone. The exports of many neutral countries were seriously restricted in the last war, and in the present war a distinction between neutral and belligerent shipping seems to have little practical value. For the same reasons the cost of raw materials may rise in the neutral countries whose arteries of supply are damaged by the conflict.

An increase in the supply price of the exporting centre will be an incentive to the importing country to look for new sources of supply. If new sources are readily available, and if the conditions of supply develop in the new centre so that the commodity can be produced as cheaply as in the old centre, it is quite likely that a permanent diversion of the channel of supply will result. These new sources of supply will be outside the zone of war, except in so far as the belligerent countries develop industries to supply their own needs. They will be in such a position in relation to the market that their transport does not run the gauntlet of belligerent attacks. If a new centre is to maintain itself, it must be able to produce at least as cheaply as the old centre when the temporary protection conferred by war is withdrawn. A new industrial centre faces the difficulty of obtaining an adequate supply of skilled labour, and the importance of this difficulty will vary with the duration of the war and the time it takes to train labour. In general, the less skill needed in the industry, the less important this difficulty becomes. Since new centres rarely manufacture much of the heavy industrial equipment needed in the production of consumption goods, the expansion of plant capacity will be retarded considerably if there are difficulties in the way of importing this equipment. If, for instance, the supply of capital equipment must be obtained from a belligerent country or from neutral countries whose exports are cut off, the ability of the new centre to expand production will be strictly limited by existing plant capacity. This will not only restrict the physical capacity of the productive unit but also increase the costs of capital equipment. Finally, the new centre must have access to the necessary raw materials.

If the new centre is in a country that previously imported the commodity, the protection afforded the industry as a result of the war may be in the nature of "infant industry" protection, and if the war lasts sufficiently long, it is conceivable that after the removal of this protection the industry will be successful in standing on its own feet. Presumably, a commodity is imported because it can be produced more cheaply abroad than at home or because there is a greater comparative advantage in the production of some other product, although of course many commodities obtainable more economically abroad are produced at home for political reasons. If, however, the commodity can no longer be imported, it may be possible to produce it at home, thus developing a new industry.

If, on the other hand, part of the new supply is imported from a new source, in the absence of political interference, a permanent diversion of international trade will result only if the factors of production are as well adapted in the new as in the old centres to the production of the commodity in question. This opening of a new market becomes especially important if the commodity is produced under conditions of decreasing cost. If there are economies of large-scale production, access to a greater market will allow the industry to produce a greater quantity at a cheaper unit cost than it could before. The war may then give the new centre an opportunity to consolidate its position and to become so firmly entrenched in the market that it will be exceedingly difficult to dislodge it after the termination of the war. If the market is relatively near the new centre of production, the advantage of lower transport costs may be sufficient to give this new centre a permanent competitive advantage.

These principles are applicable in some degree no matter what sort of economic organisation exists in the countries of the post-war world, provided that the desirability of international division of labour is recognised by the nations. The autarkical organisation of large areas of the world tends to encourage trade on a barter basis and many such agreements are concluded for political reasons only. Since self-sufficiency is the goal of the national program of totalitarian countries, trade is reduced to a minimum, but the impossibility of complete self-sufficiency forces even these countries to realise that some form, however limited, of international co-operation is necessary. Countries outside this area are thus forced, either individually or as a group, to rely on their own resources and to become as nearly self-sufficient as possible. They must encourage all domestic industries, especially those which, like the textile industry, produce necessary consumption goods, and resign themselves to the loss in material welfare of their peoples that results from the

absence of a large volume of trade. This will mean the decline of export industries and the growth of industries producing for the domestic market. In the newer industrial areas the textile industry produces primarily for the domestic market.

Effects of the Last War on the Development of the World Textile Industries

After the war of 1914-1918 the industrial structure of the countries of the world had undergone great changes. Although many of these changes would have occurred even if the war had not intervened, they would undoubtedly have done so at a less rapid pace. The forces discussed above were responsible for developments during the war that profoundly modified the relative position of the textile manufacturing centres of the world in an extremely short time.

The Far East and the United Kingdom

The rise of the cotton industry in India and Japan began long before the outbreak of war. In Japan the rate of growth of the cotton industry had "been continuous and steady, and, contrary to many ideas, was as fast before 1914 as it has been since. It is possible, however, that the rate of growth would have been slower after 1914 if the war had not given the advantage of sheltered markets, and rendered easy the access to them without competition."[1] Japan restricted home consumption in order to take advantage of export opportunities left open by Lancashire, which before the war did two-thirds of the world's export trade in cotton goods. The East was the principal market, and shipping restrictions and increased costs, as well as war demands, forced the Lancashire exporters to neglect this market. Japan was one of the countries hastening to fill the gap, and cotton production was increased as far as possible. The bulk of the increased output went into export trade, and the physical volume of exports increased by 75 per cent. from 1913 to 1918.[2]

The most striking increase was in piece goods, "thereby materially advancing the stage of manufacture at which the bulk of Japanese cotton products is now sold abroad. In fact the enlargement of the production of cotton cloth for export constituted the most permanent development that has come to the Japanese industry

[1] Cotton Yarn Association Ltd.: *Statistical Information concerning Cotton Spinning in Japan*, p. 2 (Manchester, 1928).

[2] Cf. United States, Tariff Commission: *Japanese Cotton Industry and Trade*, p. 9 (Washington, 1921).

out of the war".[1] Japan was in a position to supply the markets left free by the withdrawal of the belligerent powers in the last war, but, as was indicated above, the limits to this new activity are set by the degree to which the supply of the factors of production can be expanded. Japan lacked skilled workers, which limited successful production of the finer fabrics and made it impossible to oust Lancashire permanently from the fine-goods market. But Japan did possess a large supply of unskilled labour, and, since the ring spindle and the automatic loom require little skill to operate, quickly expanded production of the coarser counts. In 1919-20 English piece-goods exports to India and China increased by 152 per cent. But they were still only 48 per cent. of the 1913-14 figure.[2] One-half of the yarns imported by India from the United Kingdom before the war was 31's to 40's and most of the rest above 40's, while consignments from Japan were insignificant. After the war Indian mills obtained control of the market in 30's and under, and Japan increased production of 31's to 40's. The higher counts above 40's, which require more highly skilled labour, are still largely supplied by Lancashire.

Furthermore, the degree to which an industry can be expanded depends on the capital equipment available. "The Japanese cotton industry was unable to expand its basic manufacturing capacity to any great extent during the war because spinning machinery had to be imported. When measured by increase in spindleage and by output of cotton yarn, the expansion of the industry between 1914 and the close of 1918 was not much over 25 per cent. This was less than the pre-war rate of growth. The financial gains of the industry during the war resulting from the increased value of cotton goods exports were greater than the industrial advance."[3] However, Japan could produce the lower counts of yarns more cheaply than the older centres, and the gains made in this market during the war have been relatively permanent. It is Japanese competition that has most seriously disturbed Lancashire since the war.

The war of 1914 was the turning point for a period of rapid development of the Chinese cotton industry. "With the declaration of the World War in 1914, a new era was introduced into the cotton industry of China. The stoppage of foreign supply, and consequently of foreign competition, opened a lucrative field for profit

[1] *Ibid.*, p. 9.

[2] UNITED STATES, FEDERAL TRADE COMMISSION: *Preliminary Report on the Cotton Trade*, 26 Feb. 1923, p. 18.

[3] UNITED STATES. TARIFF COMMISSION: *op. cit.*, p. 9.

making to the native manufacturers."[1] During the war 87 mills were organised in China: 53 Chinese, 33 Japanese, and 1 British. China had the advantages of a large supply of unskilled labour, a large domestic cotton supply, and a large domestic market, but lacked skilled labour, business ability and capital. The Chinese mills were poorly financed and had little reserve. Chinese textile labour was much less efficient than Japanese, and the capital equipment was not so modern. The Chinese industry during the war, although freed from competition from the West, still had to face competition from Japan. Japan found it easy to establish mills in China, and the figures of Chinese textile production include much that was produced under Japanese management and ownership. However, the stimulus given by the war left a permanent mark on the relative importance of the Chinese textile industry, although there was considerable contraction at the end of the war.

In India, as in Japan, the textile industry was developing rapidly, and the war accelerated this development. By 1914, India ranked fourth among the cotton-producing countries of the world, with 6½ million spindles and 100,000 looms. The outbreak of the war caused temporary dislocation. It cut off the supplies of cheap dyes from Germany and dislocated the export trade with Asiatic Turkey. An important feature of the Indian import trade before the war was the growing importance of Germany, and when war broke out, imports from Germany, Austria, Hungary, and Belgium ceased almost immediately, while trade with the Netherlands and Italy was restricted. The rising costs of production in Lancashire did not, however, give the Indian mills a free hand, because there were other sources of supply readily available. "For a few months Lancashire retained her hold on the market, but her competitors, especially Japan and the United States, were alive to the opportunity which the rising costs of production in Lancashire created. Soon Japanese and American agents arrived in India to make a close study of the market and its requirements."[2] Before the war India had produced the greater part of the domestic demand for yarn, but only about one-quarter of that for cloth. Lancashire dominated in supplying all classes of piece goods. Indian and Japanese manufacturers took advantage of the position of Lancashire during the war, and between 1914 and 1919 imports of yarn from the United Kingdom decreased from 37 million pounds to 9½ million pounds, while shipments from Japan

[1] H. D. FONG: *Cotton Industry and Trade in China*, Vol. 1, p. 5 (Tientsin, 1932).

[2] A. R. BURNETT-HURST: "Lancashire and the Indian Market", in *Journal of the Royal Statistical Society*, 1932, p. 399.

rose from 400,000 pounds to 27 million pounds, the increase being mainly in the coarser counts—31's to 40's and 16's to 20's. The increase in the Indian yarn production was marked in the counts above 40's.[1] "The production of Indian mill cloth at the close of the war was one-third as great again as the pre-war average. The increase in Indian production synchronised with a reduction in imports from 2,600 million yards to 1,100 million yards. The British share of this diminished import trade fell from 97 per cent. pre-war to 77 per cent. in 1918-19, while that of Japan increased from 0.2 per cent. to 21 per cent."[2] The share of Lancashire in the Indian market continued to decrease after the war, although part of the trade lost has been recovered. As Indian mills increased their production and Japanese competition became more intense, Lancashire had to retreat, its share of India's import trade in yarn declining from 89 per cent. pre-war to 38 per cent. in 1931-32, and in piece goods from 97 per cent. to 50 per cent.[3] Government protection has been a substantial factor in the growth of the Indian textile industry, but the war gave an opportunity for the Indian and Japanese mills to become entrenched in the Eastern markets. Indian mills did not make great headway in the fine-goods market because of the lack of skilled labour, and the expansion of Indian industry during the war was limited, as was Japan's, by the difficulty of obtaining machinery.

Other Areas

The war gave an impetus to the exports of United States textiles, especially to Canada and the newer markets of South America, which had formerly been supplied by British, Belgian, German and Italian spinners.[4] Before the war, the American mills had made little effort to exploit foreign markets because of the large domestic demand and because catering for the export market would have required the mills to alter some of their methods of putting up and packing and terms of payment. "The decided falling off in the shipments that could be had from European spinners, and their very high prices, forced Canadian and Latin-American importers to turn to the United States for an increasing part of their needed supplies and thus practically created our export trade. The changes that have been brought about under the unusual conditions have served, however, to overcome in a large part the pre-war obstacles in the way

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[1] *Ibid.*, p. 424.

[2] *Ibid.*, p. 425.

[3] *Ibid.*, p. 425.

[4] Cf. UNITED STATES, TARIFF COMMISSION: *Cotton Yarn-Import and Export Trade in Relation to the Tariff*, p. 179 (Washington, 1920).

of a considerable and permanent foreign outlet for American cotton yarns".[1] The South American countries continued to be important markets for American yarns until the great depression and increased foreign competition caused a heavy decline in exports.

Since the war nearly all the smaller countries of central and eastern Europe have developed their textile industries. "It is not realised . . . that there are . . . new and expanded textile industries in all the smaller European countries. In total these would form a very large textile industry capable of supplying nearly all the main needs of the respective populations, excluding only specialties and the occasional balance of requirements taken from the older textile industries."[2] The exports of all kinds of cotton piece goods from the United Kingdom to the Balkans and the Near and Middle East amounted to 477.6 million linear yards valued at £5,802,000 in 1913. By 1927 this had fallen to 277.3 million linear yards.[3] The exports for the three years 1936 to 1938 were as follows[4]:

Year	Million linear yards	£1,000
1936	80.9	1,754
1937	70.6	1,500
1938	53.5	1,105

Thus the war of 1914-1918 not only hastened the rise of the Far East to a position of primary importance but also stimulated industrialisation in most parts of the world. The textile industry is usually one of the first industries to be established in countries which are just beginning to industrialise, and since the last war the development of newer centres of textile production has continued rapidly under the protection of increased trade barriers. Some of this increased domestic production has been the result of deliberate policies of economic autarky and drives toward self-sufficiency, but much of it has occurred in those countries which merely desired to diversify their economy and hoped to raise their standard of living by industrialisation. This industrialisation was rendered easier when the competing products of more highly industrialised countries were cut off by the war of 1914, which caused diversion of the resources of the belligerent countries to domestic (that is, war) use and consequently left less for export industries, hindered transport, and raised costs. The fact that industrial development was already in

[1] *Ibid.*, p. 192.

[2] "The Hungarian Textile Industry", in *The Textile Manufacturer*, Sept. 1939, p. 406.

[3] UNITED KINGDOM, COMMITTEE ON INDUSTRY AND TRADE: *Survey of Textile Industry*, p. 56 (H. M. Stationery Office, 1928).

[4] *The Board of Trade Journal*, 20 July 1939, p. 89.

progress meant that the increased development during the war was on a sufficiently firm foundation to enable much of it to survive at the end of the war, although usually with protection.

War and Textile Raw Materials

War demands affect the different raw materials of the textile industry unequally and give rise to short-run changes in the relative importance of the different fibres. Within limits, the different counts of yarn and cloth made from the same fibre must be considered different commodities for many purposes. The different kinds and fibre lengths of cotton are frequently more competitive with other fibres (such as jute and rayon) than they are with each other. The relative scarcity of the fibres most in demand may decrease their subsequent peace-time importance because of the introduction of substitutes to which the consumer becomes accustomed. This stimulus to substitutes may result in the development of a superior product. On the other hand, the abnormal war demand may give rise to such an increased productive capacity that the end of the war will force the industry to exploit new markets to avoid a severe slump.

Two problems are involved in the analysis of this process: first, the changes in the relative importance of different centres of production in the same industry, and secondly, the changes in the relative importance of different industries of a similar nature which are in a sense producing substitute commodities. The first problem is concerned with the effects of war on the relative importance of various producing centres of each fibre and its manufactured product, while the second is concerned with the effects of war on the importance of the different fibres in relation to each other, and since the centres of production of different fibres may differ this may also involve changes in spatial relationships.

During the war of 1914 the total supplies of the basic textile raw materials did not increase to any considerable extent. The total world production of cotton actually declined.[1] It is important to remember that the different grades of cotton are really different commodities and have separate markets. In 1914, 66 per cent. of the cotton produced was of a "middle" grade, 6½ per cent. fine (long staple), and 27½ per cent. short staple. The United States

[1] Estimated number of bales of 478 lbs. net.:

1912 — 25,043,000
1913 — 26,259,000
1914 — 28,667,000
1915 — 20,689,000
1916 — 19,845,000
1917 — 19,675,000
1918 — 20,613,000
1919 — 21,384,000

(United States. Department of Agriculture: *Yearbook*. 1924. p. 754).

supplied nearly 90 per cent. of the middle grade, or fully 60 per cent. of the world's total cotton supply.[1]

The war resulted in a considerable reduction of the exports of American cotton. While before the war the United States normally exported about 60 per cent. of its cotton crop, during the war the greater part of the crop was consumed at home. The difficulties of transport and the blockade of Germany were primarily responsible for the decreased foreign demand. The German market was practically destroyed, and the amount taken by the United Kingdom fell from nearly 4 million bales in 1914-1915 to less than 2½ million bales in 1918-1919.

The impetus given to cotton cultivation in other parts of the world increased the severity of post-war competition. While from 1920 to 1937 the estimated world mill consumption of all kinds of cotton increased from 17,151,000 bales of 478 pounds net to 27,876,000 bales, the percentage of American cotton decreased from 59.9 in the former year to 42.7 in 1936.[2]

Many countries suffered during the war from their dependence on American cotton and like France felt "that it was supremely dangerous for an industry supplying general needs to be dependent for its supplies of raw materials on a foreign Power."[3] These countries went to work to develop the raw material on territory under their political supervision. England and France made great efforts to increase colonial production. The table on the following page shows what success this policy met with in the more important colonial cotton areas.

The South American areas producing raw cotton expanded production to help meet the demand. The area under cotton in Argentina rose from 3,300 hectares in 1914-15 to 11,775 hectares in 1917-18, and increased steadily from an average of 45,902 hectares in 1920-21 to 1924-25 to an estimated 406,700 hectares in 1938-39.[4]

The war demands for wool are greater than for cotton, and civilian consumption is more severely restricted. These demands are for the coarser rather than the finer kinds of wool. Consequently the supply of crossbred wools tends to increase relatively to the merino. In Australia the production of crossbred wool increased from 21 per cent. of the total production in 1913-14 to 34 per cent.

[1] John A. Todd: "Supplies of Raw Cotton: The Present Position and Prospects" in *Manchester Guardian Commercial*, 15 June 1922, p. 153.

[2] Cf. United States, Department of Agriculture: *World Cotton Situation*, 5 Sept. 1939, p. 38. It is not suggested that this situation was entirely the result of the war, although the war certainly aggravated it.

[3] Hyacinthe Philouze; "The Cotton Industry in France", in *Manchester Guardian Commercial*, 15 June 1922, p. 171.

[4] *International Cotton Bulletin*, April 1939, p. 288.

of the total in 1919-20.[1] The removal of high wartime prices resulted in a drop back to normal, and the production of crossbred now averages under 20 per cent.

FRENCH, BRITISH AND BELGIAN COLONIAL PRODUCTION OF COTTON

Bales of 478 lbs.

Territory	1909–1910	1920–1921	1929–1930	1937–1938
French colonies:				
French Equatorial Africa...	—[3]	1,029[1]	3,690	39,157
French Indo-China.....	9,451[2]	14,921	7,472	5,535
French Togo.....	2,142[2]	3,327[2]	8,805[2]	8,472[2]
Ivory Coast.....	—[3]	282[2]	9,685	11,692[2]
English colonies:				
Nigeria.....	10,529	26,360[2]	36,757[2]	37,819[4]
Uganda.....	11,195[2]	68,088[2]	108,052[2]	349,000[2]
Tanganyika.....	2,866[2]	2,402	23,251	50,733
Anglo-Egyptian Sudan.....	12,552	25,539	139,198	263,718
Kenya.....	335	418	1,270	17,526
Belgian Congo	—[3]	2,546	33,906	175 261

[1] 1921-22. [2] Exports. [3] Comparable figures not available. [4] 1936-37.

SOURCE: UNITED STATES DEPARTMENT OF AGRICULTURE: *World Cotton Situation.* 5 Sept. 1939.

Dyes are one of the raw materials of the textile industry, but they are not "primary raw materials", in the same sense as cotton, wool, flax, jute, and silk. The scarcity of dyes during the last war, due to the restriction of dye exports from Germany, the most important producer in this field, gave rise to fundamental shifts in the importance of dye-producing centres. In England, the Government intervened in the "deplorable situation" with regard to the scarcity of dyestuffs, with grants-in-aid to assist the industry. "The war of 1914-1918 brought the dependence of this and other countries on Germany for dyestuffs, drugs, optical glass, etc. into painful prominence, and a sequel was the determination that there should be no danger again of such a threat to many essential trades here, including the textile industries. The difficulties were solved during the war and later, so that the dyestuffs and other key industries were protected in various ways and built up to their present size and importance."[2] The needs of the industry were met during the war, and now the domestic dyestuffs industry supplies over 90 per cent. of the requirements of the English textile trades.[3]

[1] *Dalgety's Annual Wool Review for Australia and New Zealand*, 1932-33, p. 62.

[2] *The Textile Manufacturer*, Oct. 1939, p. 448.

[3] *Ibid.*, p. 416.

Changes of Political Boundaries

A usual political result of war is a change in the boundaries of national States. The importance for a particular industrial centre of such a change lies primarily in the effect of a violent and sudden change on its relation to its markets, because national boundaries are identical with economic barriers. Industrial plants that grew up to serve a particular market, faced with a sudden contraction of that market, are presented with serious problems of adjustment, and an industrial centre with a contracted market to serve must inevitably decline. Furthermore, one of the most important motives for the creation of tariff barriers by the new States has been to facilitate the development of new domestic industries or to protect the old ones. At the same time a drive for new export markets is conducted by the older industries. Therefore, not only is there a struggle by the old industries to find new markets but new industries are developed at a time when production already exceeds demand at remunerative prices. Consequently the original problem created by the contracted home market is made more difficult by the development of more intense competition in export markets.

An industry developed under protection may suddenly find itself faced with competition it is quite unprepared to meet, when it is situated in an area that suddenly changes hands politically. In the textile industry, which is composed of many separate industries dependent on each other for their supplies or their market, serious technical difficulties may develop when a political boundary line is drawn between them. Thus spinning mills serving specific weaving sheds may suddenly find themselves without a market for their goods, and weaving sheds may find it difficult to obtain enough yarn.

The war of 1914 resulted in an extensive redrawing of the European map. Several new States were created, and at least one great textile area, that of Alsace-Lorraine, changed hands. The textile industry in Poland had grown up with the large Russian market as an outlet, and, while industry generally showed great development before the war of 1914, the textile industry had developed most.[1] At the end of the war an industry which had depended on Russia for between two-thirds and three-quarters of its customers and which had been created artificially by protective duties and export bounties was divorced from Russia and forced to rely on its domestic market and such export markets as it could find.

In order to enter the market in western Europe and to meet

[1] Cf. Geoffrey DRAGE: "Pre-War Statistics of Poland and Lithuania", in *Journal of the Royal Statistical Society*, Mar. 1918, p. 266.

home demand it was necessary for the industry to reorganise its production and produce finer counts of yarn and cloth, since the heavy counts demanded by the Russian market were not suited to western demand. This meant considerable change in the type of equipment employed, and by 1923 the only production exceeding the pre-war figures was that of the fine-cotton spindles.

Lodz was the greatest centre of the Polish textile industry. Its factories were considerably damaged by the fleeing Russian troops and the German occupation. After the war the shortage of capital was the main handicap the industry had to face. It was even difficult to get enough money to start the factories, and many makeshift expedients were resorted to.

However, so great was the domestic demand that output grew rapidly and the reconstruction was financed from the sale of goods, the quantity of which was not nearly sufficient to supply the demand. Two and three shifts were worked in the factories, and trade was brisk. This continued until 1924, when a decline set in, largely a result of the crisis consequent on currency stabilisation. There followed a great increase in the cost of living and a diminution of the purchasing power of the greater part of the population. Activity declined sharply, and the industry faced a severe crisis. The subsequent course of the industry was not very smooth. Increasing trade barriers, currency problems, and agricultural difficulties leading to continued low purchasing power in a country predominantly agricultural, added to its distress.

The break-up of the old Austro-Hungarian Empire gave to the new Czechoslovakia, with its 14 million people, over three-quarters of the textile industries which had grown up with free access to a market of 52 million people. The cotton industry in the former Kingdom of Bohemia had before the war outgrown the domestic market of the Austro-Hungarian Empire, and spinners and weavers had organised to keep production approximately at the level of the demand, although exporting 25 to 30 per cent. of the total output.[1] Export markets were therefore necessary for the textile industry of the new Czechoslovak Republic. The most important markets for Czech textiles were in the Succession States, and the trade barriers erected by these States, the development of domestic industries, and currency difficulties seriously depressed the Czech industry. Heavy stocks and high operating costs further impaired its competitive position in world markets.

[1] Cf. George MAUTHNER: "The Cotton Industry in Czechoslovakia", in *Manchester Guardian Commercial*, 15 June 1922, p. 176.

Not only was a disproportionate amount of equipment incorporated in the smaller State, but the separation of the spinning, weaving, and finishing plants by the new frontiers created a serious technical situation. Spinning plants were concentrated in Austria, especially in the Tyrol, weaving in Bohemia, Moravia, and Silesia, and finishing around Vienna. The Czechoslovak industry was thus faced with an extremely difficult problem. "There are not enough spindles to keep the looms fully supplied with yarn and, on the other hand, the production of the looms is greater than can be coped with by the home finishing industries."[1] Consequently, it was necessary for many goods to be sent from one country to the other for processing, and this, of course, was complicated by the effect of currency fluctuations, since industries stood to lose when their payments had to be made in a foreign currency subject to fluctuations in value. The dislocation of transport for military purposes, and the failure to make proper repairs, made this necessary exchange even more difficult and costly.

The resulting problem was no less severe for Austria than for Czechoslovakia, since Austria also was left with an unco-ordinated industry, and its textile industry was "dependent upon intensive and uninterrupted trade relations with the other Succession States and their textile industries."[2] The raising of trade barriers by all these States made such a solution impossible. Czechoslovakia had been the principal market, but the import duties raised there were prohibitive, and the yarn trade with Czechoslovakia consisted mainly of Austrian yarns sent to Bohemia for finishing, which were returned later as finished goods.

It soon became clear that the markets in Central Europe were not going to become freer, but rather that trade restrictions would increase. Therefore it became necessary in Austria to put into operation plans for reducing output; working hours were reduced and plants closed down. The number of spindles of all kinds in Austria was reduced from 1,051,000 in 1924 to 742,000 by 31 January 1938.

The great textile centre of Alsace-Lorraine was returned to France as a result of the post-war political changes. This meant the removal of some 1,891,450 cotton spindles and 40,258 power looms from Germany and their incorporation in France. "The return of Alsace to France represents an increase of 27 per cent. in the number of spindles and 30 per cent. in that of looms, the whole

[1] *Ibid.*, p. 176.

[2] Egan LEDERER: "The Textile Industries of Austria", in *Manchester Guardian Commercial*, 15 June 1922, p. 178.

producing 60,000 tons of yarns and piece goods, of which the greater part went before the war into Germany."[1] An attempt was made to secure freedom of movement of these goods into Germany, just as in 1871 a lower tariff into France was obtained, but this measure was unsuccessful because of the collapse of the mark. The greatly increased productive capacity forced France to seek new markets, and the relative importance of the French textile industry was enhanced. The problem of disposing of this increased production was an extremely difficult one. The ease with which textile plants can be replaced further complicated the problem, since Germany promptly erected new plants. By 10 January 1925, Germany had erected so many new plants that after that date most of the Alsatian cotton and woollen goods were effectively excluded. "In spite of a loss of 46,000 looms that went with the cessions of territory on her western frontier and in spite of a further loss of looms to Poland, there were in Germany, in 1925, 240,000 looms as compared with 230,000 in 1913."[2]

One of the most serious problems France had to face, however, was the reconstruction of the equipment destroyed in the war zone. The copper parts of machines had been removed, whole machines had been carried across the Rhine, and much equipment had been smashed on the spot: 3,246,000 spinning spindles, 877,000 doubling spindles, and 26,500 looms were damaged or destroyed. This amounted to 38.5 per cent. of the spinning spindles, 78.77 per cent. of the doubling spindles, and 15 per cent. of the mechanical looms that existed in France before the war. It is estimated that the loss in production corresponding to this destruction in the spinning section was 30 per cent. for American or Indian yarns and 80 per cent. for Egyptian yarns, and in the weaving section 40 per cent.[3] The cost of repairing the destruction and the necessity of diverting a considerable amount of labour from other uses for this purpose seriously handicapped the French cotton industry in regaining its pre-war level. Many of France's old markets were in the hands of competitors, and the country was faced with the slow and laborious process of building up its export trade. By 1925 reconstruction in the north and east was virtually completed. There was then a total addition to pre-war capacity of some two million spindles and

[1] Hyacinthe PHILOUZE: "The Cotton Industry in France", *loc. cit.*, p. 171.

[2] William F. OGBURN and W. JAFFE: *The Economic Development of Post-War France*, p. 371 (New York, 1929).

[3] See "The Effects of the War on the French Cotton Industry", in *International Cotton Bulletin*, Vol. I, pp. 224-227, for detailed statistics on these points.

40,000 power looms. France succeeded in obtaining an outlet for goods in foreign and colonial markets[1], and the Alsace industry found French domestic and colonial markets a reasonably adequate substitute for the old German markets. Although Alsatian goods were allowed free entry into Germany until 1925, only about 30 per cent. of the goods entitled to this entry were actually disposed of in the German market. Between 1920 and 1925 France increased its exports of fabrics to the colonies, England, Argentina, and Brazil. "It is not entirely through the foreign field that France has succeeded in nearly getting back to pre-war totals of exports of cotton goods; it is chiefly the revival of the colonial market which has saved the situation. Out of the total export of cotton fabrics in 1913 of 553,536 metric quintals it appears that some 275,000 went to the colonies (mainly Algeria); out of the total exports of 547,944 in 1925, 283,222 quintals went to the colonies."[2]

Production in the French cotton industry, however, attained only about 75 per cent. of its pre-war level. This was probably closely connected with the world situation of the cotton industry, since other fibres, notably rayon, were making inroads into cotton demand, and prices of cotton goods were relatively high compared with those of other goods. Furthermore, while before the war cotton articles were the primary component of French cotton exports, after the war laces, tulles, and embroideries were no longer in fashion and this part of the French industry suffered considerable decline.

The wool industry in France recovered its pre-war level in a relatively short time after the war in spite of the fact that it had sustained heavy losses by the destruction of equipment in the war zone. Exports were increased relatively to domestic consumption, primarily because the price remained relatively high on the home market. French woollen mills had the ability to produce new lines, and originality and quality were their strength in the world markets. France brought its equipment up to date and improved its technique. "The expansion of the export market indicates perhaps more clearly than any other post-war phenomenon how great a stimulus the substitution of the war-damaged outworn equipment by new ma-

[1] Total exports from France (including Alsace-Lorraine) in metric quintals:

Year	Yarns	Fabrics
1913	99,677	553,536
1920	80,746	478,703
1921	166,792	586,545
1922	151,814	437,073
1923	83,298	444,529
1924	160,243	671,319
1925	102,900	547,944

(*Manchester Guardian Commercial*, 18 Mar. 1926, p. 305.)

[2] *Ibid.*, p. 305.

chinery had given to the economic development of France."[1] Before the war woollen exports declined steadily, and probably this was due largely to antiquated production technique. The worsted industry, which specialised in fine women's fabrics, was mechanised more rapidly than the woollen industry and before the war held a better position in world markets.

The Present War and the Textile Industry[2]

The early realisation by belligerent countries of the importance of export trade and the German control of the whole of Europe are two of the most important features of this war that will make its effects on the world textile industry greatly different from those of the war of 1914-1918. It has been shown that increased costs of production and distribution will place difficulties in the way of export trade since the products of those countries which are subject to increased costs can no longer compete on a favourable basis with the products of other countries. However, if during the war the rise in production and distribution costs is offset by more efficient organisation of industry, resulting in less waste and better utilisation of resources, it may be possible to place goods on the market at a price not appreciably greater than the price at which they are offered by other countries. The volume of export trade may then be maintained at very nearly the pre-war level, especially if the country at war can induce importers to buy its goods, even at a slight loss, out of sympathy for the cause for which it is fighting. In many cases, these importers will be actual allies of the exporting country but further removed from the war zone. The destructiveness of modern warfare and the British blockade are not the only factors affecting European industry. Although little exact information is available concerning Hitler's plans for the "new order" in Europe, it is clear that the industrial centre of this Europe is to be Germany. Hence the development of the industries of Central Europe that occurred during the war of 1914-1918 cannot be expected to-day. Rather it appears that the industries of the conquered areas are being looted of their stocks and equipment by the Nazis. Plants are forced to work for the German war machine. In the unconquered areas where the blow has not yet fallen, the difficulty of obtaining supplies increases as the war is prolonged; and the Nazi trade policy forces these countries into the position of supplying raw

[1] William F. Ogburn and W. Jaffe: *op. cit.*, pp. 386-7.

[2] The author is indebted to Mrs. Kojima-Dulot for assistance in collecting some of the material used in this section.

materials rather than of developing their industries, unless those industries are especially useful to the German war machine.

Once again the great industries of Belgium and Northern France are partly destroyed. It is impossible at this time to estimate the losses, but there is little doubt that they are tremendous. Verviers, in the province of Liége in Belgium, is the centre of the wool industry. Flanders is the centre of the linen industry, and contains 8 per cent. of the linen spindles of the world. Ghent is the chief centre of the cotton industry. These industries were having some difficulty in securing raw materials before the invasion, but now the supplies of wool will be entirely cut off; those of cotton, reduced to the small amounts that can be obtained in Europe and perhaps in French Africa. In Northern France the arrondissement of Lille contained 85 per cent. of the French linen-spinning industry. Roubaix, the most important centre for woollen and worsted spinning, alone possessed 20 per cent. of the wool-spinning capacity of France, and the Roubaix-Tourcoing district produced 60 per cent. of the worsted yarn. Of the 40,000 looms weaving woollen and worsted cloth in France, 12,000 were in Roubaix alone. Other centres of importance were Fourmies, Avesnes, and Cambrai. The north-east of France possessed 80 per cent. of the combing and 50 per cent. of the spinning and mechanical weaving equipment of France.[1] Of the cotton spindles in France, one-third were in the north.[2] Thus a large part of the cotton, wool, and linen industries of France and Belgium was situated in those areas where destruction of plant and equipment was undoubtedly extensive.

Fine and specialty goods were the backbone of French production and are not easily replaceable in world markets, but the disappearance of the French and the Belgian and Dutch textile exports, as well as those of Germany and Czechoslovakia, may increase to some extent the demand for the products of the countries still able to export, although the loss of these markets may offset any increase. This will be especially applicable to wool and linen textiles. Holland and Belgium were also importers of textile goods from Great Britain and France as well as from each other, but they produce primarily for the domestic market and for European and colonial markets.

The relatively successful reconstruction of the French industry after the last war has been discussed above[3], but if France once more becomes free and its territory united, the problem facing the

[1] Cf. *Journal officiel*, 26 April 1932, p. 376.

[2] Most of the figures cited are taken from the *Annuaire du Commerce international* (Annuaire Bleu, Paris 1937).

[3] Pp. 317-319.

industry will be even greater than after the last war. The development of artificial fibres, and the increased activity of the textile industries in newer centres, which are now in a better position to increase their production than they were in 1914, will make the problem of finding markets for the older centres even more difficult. For example, in the last few years Argentina was becoming increasingly important as a market for French cottons, but the growth in Argentine production that can be expected during this war is considerable.[1] Colonial markets and other less developed areas will not be so important as textile importers, and consequently the solution for the rehabilitation of the industries of the older areas whose equipment has been destroyed or whose markets have been diminished during the present war will depend to a large extent upon their ability to produce "specialties"—those products for which they have peculiar skill or ability.

Germany has been preparing for war since the National-Socialist régime came into power, and since war would put difficulties in the way of obtaining supplies of natural fibres, this country has gone far in developing artificial fibres and also in developing domestic sources of cellulose. The domestic supply of natural fibres is small, and before the war Germany imported large quantities of cotton, wool, and jute. It produces no cotton, and imports in 1938 amounted to 1,164,000 bales, as compared with an average of 1,679,000 bales in the years 1923-1932.[2] Thus it is clear that in spite of autarkic policies Germany was not able to free itself from dependence on large cotton imports. From September to November 1939, American cotton exports to Germany were 2,918,000 pounds, while in the same period in 1938 they amounted to 64,209,000 pounds.[3] These figures demonstrate the effectiveness of the blockade, and although small amounts of cotton may be obtainable from eastern and southern neighbours, Germany's cotton shortage remains very large. Home production of wool is small, but has been increased since 1934. The number of sheep rose from 3.5 million in 1930-31 to 4.7 million in 1937-38, and domestic wool production from 32 million pounds (greasy basis) in the former year to 43 million pounds in1937-38.[4] Yet German imports of raw wool were still 227 million pounds

[1] See below, pp. 340-342.

[2] Bales of 478 pounds net. Cf. UNITED STATES, DEPARTMENT OF AGRICULTURE: *World Cotton Situation*, 1939, p. XI.

[3] *Manchester Guardian*, 21 March 1940.

[4] IMPERIAL ECONOMIC COMMITTEE: *Industrial Fibres*, pp. 37-38 (H. M. Stationery Office, 1938).

(actual weight) in 1937.[1] Flax is the one fibre with which Germany is relatively well supplied, and the production of this fibre has been markedly increased. The area under flax, which was only 27,000 acres in 1930, spread to 141,000 acres in 1937, and production increased from 5,000 tons in 1931 to 33,000 tons in 1937, but in the latter year Germany still imported 17,000 tons[2], mostly from the Baltic States, Belgium, and the Soviet Union.

The great dependence of Germany on outside supplies of textile raw materials has driven it to develop the staple fibre industry, since the raw material is relatively less costly in staple fibre production than in the production of cotton or wool yarn and is, for Germany, much more easily obtainable. The amount of rayon and staple fibre produced increased from 8,750,000 pounds in 1933 to 330 million pounds in 1938[3], and the estimate for 1939 was 400 million pounds The production of rayon and staple fibre in 1930-31 to 1934-35 averaged 13.4 per cent. of the mill consumption of cotton, and in 1935-36 to 1937-38 this percentage had risen to 55.8 per cent.[4] Total home supplies of natural and artificial fibres, rags and waste were estimated officially at 356,000 tons in 1938, which was 32.4 per cent. of the total demand.[5]

Domestic sources of cellulose, including straw, potato tops, and reeds, are exploited as fully as possible[6], and truly synthetic fibres made without cellulose, similar to vinyon and nylon, are reported to have been introduced successfully. The concentration of German technique on staple fibre will have an important influence on textile manufacture throughout the world after the war. Undoubtedly much of the German production is of inferior goods, but by no means all of it, and the important role of artificial fibres is clearly established.

Italy, too, increased the output of staple fibre and rayon from 67 million pounds in 1930 to 310 million pounds in 1939[7], and since the supplies of woodpulp and casein must be imported, it is extending the cultivation of the *Arundo donax* cellulose reed in the marshlands of Udine and in Albania. The country is dependent on foreign sources for most of its raw wool and all its raw cotton, and

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[1] *Ibid.*, p. 44.

[2] *Ibid.*, pp. 0-71.

[3] UNITED STATES, DEPARTMENT OF AGRICULTURE: *op. cit.*, p. 120.

[4] See Bennet S. WHITE: "The Shrinking Foreign Market for United States Cotton", in *Quarterly Journal of Economics*, Feb. 1940, pp. 255-276.

[5] *Economist*, 6 April 1940, p. 620.

[6] Especially the *Arundo donax*, one of the largest of European reeds. Both Italy and Germany report good results from the use of this reed.

[7] *Organon Statistical Supplement*, 23 Jan. 1940.

the blockade will effectively bring to a standstill most of its textile production except that of artificial fibres.

This development of artificial fibres has a far-reaching effect on the relative importance of textile fibres. "The past few months have witnessed a notable extension of enterprise in the use of staple fibre in worsted spinning and manufacture . . . In past seasons the trade has tended in the main to use staple fibre only in very small proportions, taking advantage of its immunity from wool dyestuffs to produce a mixture effect. It has taken some time for the merits of staple fibre mixture in proportions up to 75 per cent. staple fibre to be appreciated.

"The present development is the outcome of technical and commercial progress, but it is certain that progress will be assisted by the rationing of wool for civilian uses and the comparatively higher prices of wool since the outbreak of war."[1] Cotton, wool, silk, and even flax and jute, can be expected to face severe competition from artificial fibres, the development of which will receive considerable impetus from the high prices of the natural fibres resulting from the war. The heavy army demands for wool and jute and the increased costs of transporting cotton, wool, and jute will inevitably raise their prices and thus restrict civilian consumption, since the demand for these commodities is not inelastic. An increase in the prices of these commodities will make it profitable to produce substitutes even apart from a policy of developing an economy independent of foreign raw materials. The steady advance in the production of rayon and staple fibre in England and the United States is an indication of their increasing importance in the satisfaction of certain requirements of the textile industries. There is much prejudice on the part of the consumer against any sort of artificial "substitute", and it is frequently not realised that "artificial" fibres are not necessarily inferior to natural fibres and that they can sometimes be used—frequently in combination with "natural" fibres—to produce a better product than can be produced with a "natural" fibre only. But the consumer will experiment with a lower-priced product even though he believes it to be inferior. The greater the differences in price, the greater the number of consumers who will try the new product. If, in fact, the new product is just as good as or better than the old, the original prejudice will tend to disappear and the demand for the cheaper commodity will be firmly established. The rationing of the supplies of some fibres will tend to encourage the substitution of other fibres not so strictly rationed.

[1] *Textile Manufacturer*, Jan. 1940, p. 8.

If, however, all classes of textiles, including goods made from artificial fibres, are restricted equally, as was the case in the first restriction period in the United Kingdom, where cotton and rayon goods for domestic consumption were restricted to 75 per cent. of the pre-war quantity, the scope for substitution is small unless total consumption is reduced by more than the required amount. If the different kinds of textiles are restricted unequally, there will be considerable substitution. For example, in the United Kingdom at the time of writing the home sale of cotton goods is allowed up to 37½ per cent. and of rayon goods up to 66⅔ per cent. of the total for the six months beginning 1 October 1939. This will inevitably encourage the substitution of rayon and staple fibre for the natural fibre.[1]

The increasing use of rayon and staple fibre is not confined to belligerent countries. The production in the United States reached the new high level in 1939 of 384 million pounds, which was 12 per cent. above that of 1938. War tends to raise prices throughout the world, and in the United States new fabrics which contain artificial fibres are being offered in order to keep down the retail prices of finished textile commodities.[2] Rayon carpets are being introduced, since carpet wools are in active demand for army blankets and uniforms, and in January 1940 the prices of carpet wools had already advanced 50 per cent. over pre-war prices. Interest in nylon as a substitute for silk, especially in hosiery, was increasing before the war. If this fabric proves more satisfactory than silk for hosiery, as is claimed, a marked difference in the price of nylon hosiery and silk hosiery will hasten the consumers' acceptance of the new product. Artificial fibre has two definite advantages compared with natural fibre. It is improving and becoming more varied in quality year by year, and its price is falling steadily with the stabilisation of manufacturing processes. Manufacturing is concentrated in a few large well-financed companies, and full advantage is taken of all the resources of modern chemistry and physics.

[1] Foreign-exchange policy often leads to the prohibition of imports of specified commodities and this will have important effects on trade in these commodities. For example, Canada's recent prohibition of raw-silk imports must necessarily encourage the producers of artificial-silk hosiery at the expense of raw-silk producers although the result will probably be that many of the latter will adapt their equipment to the production of artificial-silk goods.

[2] "The domestic staple fibre industry is installing additional units and equipment, and by 1940 will be in a position to increase its output to a quantity about equal to present United States requirements. Still further increase could be made in a relatively short time". UNITED STATES, TARIFF COMMISSION: *The War and U. S. Imports*, 1939, p. B. 184.

Manufacturers do not conceal the fact that their aim is to reduce costs and gradually replace cotton.[1] Perhaps this ambitious end will not be reached during the next few years, but it seems certain that mixtures of artificial fibres and natural fibres will be used more and more widely, and that fabrics of "pure wool" and "pure silk" will soon be less common. They will have to give way to mixed fabrics which are quite as attractive and as strong but are less expensive.

The United Kingdom

The United Kingdom is the most important textile exporting centre in Europe. During the last war its exports declined greatly, and after the war many of the lost markets were never wholly recovered. It is a significant fact that since that war the cotton and wool textile industries of the United Kingdom have been losing ground in the markets of the world. This has been associated with the rise of textile production in the less industrialised countries. The present war is also stimulating industry in overseas countries since the purchase of goods from Europe is hindered by high costs and transport difficulties, the latter, of course, being decisive for continental European goods because of the British blockade.

As the war goes on, shortage of labour, especially skilled labour, becomes more acute, and relatively inefficient labour must be drawn into the industry. It was estimated in February 1940 that in the cotton-spinning section 15 to 20 per cent. of the spindles were idle due to labour shortage. Wages in all sections of the textile industry have risen, and also insurance and freight charges. In May the wages of cotton, spinning, and weaving operatives were 22 per cent. above pre-war rates. The delays and difficulties of transport, the loss of time and efficiency because of air-raid precautions and alarms, and the expenses of the blackout, are all adding to the cost of production in those countries for which such precautions are necessary. Naval warfare makes it more difficult not only to supply the finished goods but also to obtain those raw materials that must be imported, and the prices of these materials will therefore rise to a greater extent in the countries for which this risk is most serious. Great Britain's arrangement for purchasing Australian, New Zealand, and South African wool offset this rise for wool textiles to some extent, but the problem of safe transport still remains. Destruction of ships, the necessity of choosing longer routes, the use of the convoy system, and the demands on shipping

[1] See the statement made by Dr. Henry Dreyfus, Chairman of British Celanese Ltd., cited in *Textile Mercury and Argus*, 22 Dec. 1939, p. 697.

space for war materials necessitate rationing of space and increase the cost of transport. The possible destruction of some port and internal transport facilities by bombing will add to the difficulties. The costs of textile finishing have increased and some dyes are not obtainable. Imported dyes are reserved for the defense forces and for the export trade. The loss of European markets, in some cases the reduction of domestic consumption, and the shortage of certain classes of labour result in inability to use plant to full capacity and thus increase the overhead costs per unit of output. If the restriction of domestic consumption is not entirely offset by an increase of exports, and the total market is thus reduced, a rise in unit cost may occur where there are economies of large-scale production.

Furthermore, some resources formerly used for the export industries must now be used for war purposes[1], and the textile industry, producing army clothing, blankets, cotton duck, tire fabrics, insulation for wiring, webbing, blackout materials, tents, ropes, sandbags, silk materials and thread, and many other war necessities, is called on to devote a large part of its productive resources to war uses exclusively. In order to free resources for war industry as well as export trade, which is, of course, a "war industry" in so far as the exchange received is used to buy essential goods, domestic consumption of textiles is restricted. In addition to the restrictions on the total amount of raw materials allowed for domestic production, a tax of 33⅓ per cent. is levied on the wholesale price of luxury or semi-luxury goods including silks, lace, and articles not needing immediate replacement such as haberdashery. A tax of 16⅔ per cent. is imposed on all textile goods with the exception of children's clothing, sewing thread, and mending and knitting wool.

Conscious effort directed towards more efficient organisation and control of the textile industry is indispensable if exports are to be maintained, and for this purpose the Export Council has been set up and industrial groups organised under it. Since Great Britain's primary reason for maintaining or expanding exports is to obtain foreign exchange to pay for imported goods, the degree to which exports are vital to the war effort will depend on the possibilities of obtaining foreign credits. If credits are not available in

[1] For example, certain classes of crossbred wools used for the manufacture of well-known British specialties. The shortage of crossbred wool for export is acute.

the countries from which Great Britain must buy, no considerations of post-war maladjustment can be expected to deter the expansion of any industry the products of which can be used to obtain foreign exchange. Nevertheless, if competing centres do not displace British textiles in the short run, the textile industry will be in a better position after the war. The Export Council realises that "there are powerful reasons why the strongest preference should be given to measures which involve least interference with the existing channels of trade", and it endorses the view that "the more the arrangements adopted for war export trade are built on the normal structure of trade, the sounder and healthier will be the state of the trading organism at the end of the war."[1]

In order to maintain exports the war economy of Great Britain is organised in a way that will favour export industries. In wool manufacturing, raw-material priorities are given to the exporting manufacturer, who is guaranteed more than 100 per cent. replacement of the wool used for manufacturing exported goods. The expressed aim of the cotton-yarn controls is to assist export trade, and preference over producers for the home market in obtaining raw cotton is given to producers for export, while "preference directions" are issued at all stages of manufacture for the Government and for export. A Cotton Control is in charge of the problems of supply for the government and the Cotton Board concentrates on export trade. A tax is collected on raw cotton in order to establish a fund for research and development of markets. A system of price rebates in connection with orders for oversea markets has been introduced by dyers and calico printers. The Government is attempting to guarantee stable prices sufficiently in advance to enable the exporter to quote prices on future orders with some degree of assurance. Shipping space allowances for cotton are granted in order to ensure adequate supplies. A Man-Power Board has been established to safeguard various branches of the industry against mobilisation of its key workers. A standstill order prohibits cotton workers from moving from one trade to another, and joint area committees regulate the flow of labour within the industry.

The essential difficulty is that of maintaining British prices in line with world prices. Much can be done during the war to improve the industrial organisation of the textile industry and especially the organisation of export trade; for example, by more unified marketing and the elimination of wasteful competition among Lan-

[1] UNITED KINGDOM, BOARD OF TRADE: *Aims and Plan of Work of the Export Council* (H. M. Stationery Office, 1940).

cashire exporters in foreign markets. Inefficiency of the organisation of the Lancashire industry in comparison with that of Japan as regards marketing and purchasing has frequently been cited as one of the reasons for Lancashire's higher costs of production, although other reasons are probably more important.[1]

The Corporation of British Overseas Cotton, Ltd. has been created in Great Britain since the outbreak of war to organise the production of cotton cloth where independent firms or syndicates, because of special problems, cannot cope with the difficulty. Private syndicates have been formed for the marketing of textile exports and many goods are now marketed on a collective basis by central exporting firms. The Nazi conquest of Europe has destroyed a large market for the textile exports of the United Kingdom. Denmark was the Lancashire cotton industry's best customer in Europe, averaging from 1934 to 1938 imports of about 50 million square yards of cotton goods, while Norway took 21 million square yards in 1936 and 17 million in 1938.[2] Norway, Denmark, Holland, and Belgium, in the first eight months of 1939, imported cotton goods to the value of £2,771,953 from England.[3] The destruction of these markets has made it even more imperative to find other outlets for British goods. The establishment of a Colour, Design and Style Centre in Manchester by the Cotton Board is an attempt to encourage the production of goods of high quality which appeal to the consumer by virtue of their quality and novelty of design and style. The European production of these fabrics is no longer available and Manchester producers realise their strength in novel "specialty" fabrics not easily produced in other countries.

The drive to improve export organisation in Great Britain and so increase exports succeeded in showing results after the first few months of war, and export values have tended to rise, especially those of woollen goods. Rising values, however, need to be examined cautiously, because of the rise in prices. In December 1939, for example, a decrease of 4 per cent. in the weight of cotton yarn exports as compared with the previous year and an increase of 13 per cent. in the yardage of piece goods exports were accompanied by an increase of 36 per cent. in the value of these exports.[4] Some increase over 1938 is not startling, since 1938 was the worst year

[1] A plan for the central control of exports is discussed by T. BALOGH: "Foreign Exchange and Export Trade Policy", in *Economic Journal*, Mar. 1940, pp. 22-26.

[2] *Manchester Guardian*, 10 April 1940.

[3] *Textile Mercury and Argus*, 17 May 1940, p. 523.

[4] *Manchester Guardian*, 6 May 1940.

for Lancashire since 1850. The success of British efforts must not be underestimated, however. The following table, showing the exports from the United Kingdom of woollen tissues, worsted tissues, combed wool tops, and worsted yarns during the first five months of 1938, 1939, and 1940, indicates the truly remarkable character of the efforts of British industry under war conditions.[1]

WOOL EXPORTS FROM THE UNITED KINGDOM

Article	First five months		
	1938	1939	1940
Woollen tissues (sq. yds.)	25,287	26,057	23,450
Worsted tissues (sq. yds.)	14,155	13,708	19,852
Tops (combed wool) (lbs.)	12,251	18,328	16,671
Worsted yarns (lbs.)	8,646	10,770	6,928

In the first six months of 1940 Great Britain exported 7 million pounds of rayon yarn, and 47 million square yards of rayon fabrics as compared with 3 million pounds of yarn and 34 million square yards of fabric in the same period of 1939. The export of cotton goods has not been so heartening to producers, but the situation is better than it would have been had as little attention been given to the export trade as was the case in the last war. Of great assistance to the whole export program has been the encouragement given in the British dominions to the importation of British goods. Canada makes every effort to increase, not diminish, her import of British textiles. "... Our market is vital to British industry in this emergency.... adequate financing must be found to accomplish.... purchases even to the extent of Canada supplying the wherewithal in long-term credits."[2]

Nevertheless, if the war lasts a long time, the only method by which some reduction in exports can be prevented will probably be that of subvention, and the many drawbacks of direct subsidies, especially the probability of retaliation from other countries, set a definite limit to the use of this method. Subvention is economic in wartime if with the exchange obtained from the export of the subsidised commodities a greater quantity of necessary goods can be imported than could be obtained if the factors of production in

[1] *The Economist*, 20 July 1940, p. 99.

[2] "Facing the Facts in Imports from Britain", *Canadian Textile Journal*, 30 Aug. 1940, p. 10. Canadian tariff duties on many classes of British textiles were removed or sharply reduced in December 1940, and at the same time the importation of many classes of goods from non-sterling areas was prohibited entirely or permitted only under licence.

the subsidised industry, plus the subsidy, were used to produce these necessary goods at home. A certain form of subsidy was already being employed widely before the war, and the war has extended its use. It is the simple device of setting export prices at a lower level than home prices and relying on the home trade to maintain the profitability of the industry and to carry most of the overhead cost. Courtaulds, under its fabric export scheme, sells yarn at lower prices for the making of export fabrics than it does for the making of domestic goods.[1] This and other forms of indirect subsidies combined with the centralised marketing of goods and special agreements, such as the one made with Java in August whereby one shipment of 23 million yards of cambric was arranged to be sent to Java, will be the main lines along which British export policy will go. Direct subsidies, although not out of the question, are nevertheless unlikely and have received no official encouragement.

Non-European Countries

The difficulty of obtaining supplies from accustomed sources will lead in some importing countries to an increase in domestic production and will give other countries an opportunity to increase their exports to the neglected markets. In both cases an increase in the world's capacity for producing the commodities concerned will occur unless the destruction of European equipment exceeds the expansion elsewhere. Unless total demand increases, which is unlikely after a long war with its aftermath of poverty and depression, some centres will be faced after the war with excess capacity and will have to contract. As was pointed out at the beginning of this article, the degree to which the source of supply will be diverted permanently depends, among other things, upon the degree to which the new centre is adapted to the production of the commodity.

However, when domestic production is expanded because of the protective effect of war, there will be strong pressure for the maintenance of protection by tariffs after the war. Already, in India industrialists are pointing out that many industries established during the last war failed after the war because the Government refused to protect them. Demands are now being made that the Government give some assurance that this will not happen again. Sir A. Ramaswami Mudaliar, Commerce Member of the Government of India and Chairman of the Economic Resources

[1] Cf. article in *Silk Journal and Rayon World*, Apr. 1940, p. 10.

to meet the military demands but also to supply the Indian and other Far Eastern markets. Already, Indian exports of cotton piece goods to the Near East, Africa, and Malaya, are expanding. For the past few years the competition of Indian mills has become increasingly effective in these markets. Indian exports of all textile manufactures to the Federated Malay States increased in value from Rs. 400,449 in 1933-34 to Rs. 1,223,136 in 1937-38, and exports to the Straits Settlements from Rs. 7,212,903 in 1933-34 to Rs, 13.007,463 in 1937-38. In an address to the Associated Chambers of Commerce at Calcutta the Viceroy of India pointed out that the demands from overseas were to a large extent from countries which normally do not buy in India, and that in some instances India had supplied articles which it had not manufactured previously. He considered that India would be able permanently to extend its markets in certain directions after the cessation of hostilities.[1] Efforts are being made by Indian industrialists to increase their sales to the Union of South Africa as well as to the Eastern markets.

Indian industrialists are well aware of their opportunities. If this war lasts long, the development will be appreciable and permanently increase India's industrial importance. The needs for capital equipment may be met in the United States, to which India is already turning for many products previously supplied by Great Britain and Germany. Although over half of the imports of machinery into India before the war came from the United Kingdom, Germany was the next largest supplier and provided about 15 per cent. of the total annual imports, compared with 10 per cent. from the United States.[2]

Africa, Australia, and New Zealand.

India is not the only country within the British Commonwealth where we may expect a decline in the imports of textile manufactures. A country of increasing importance is the Union of South Africa. The greater part of its textile demands has been met by the United Kingdom although other European countries, Japan, and the United States have been important suppliers. Since the war the United Kingdom, France, and some of the European neutral countries have not been able to supply South Africa with the usual quantities of textiles, and demands for Italian, Japanese, and American goods are increasing. Domestic textile production has also

[1] Cf. *The Times Trade and Engineering Supplement*, Jan. 1940, p. 12.

[2] Cf. UNITED STATES, DEPARTMENT OF COMMERCE: Commerce Reports, 20 Jan. 1940, p. 66.

increased, but cannot expand sufficiently to meet these demands in full.[1]

The principal textile mills of Egypt increased their production of cotton yarn from 12 million kilogrammes in 1934 to 20.7 million kilogrammes in 1938 and that of cotton piece goods from 37.5 million square metres to 66.3 million. These figures do not include small factories and the hand industry. "It seems clear that the Egyptian cotton textile industry will continue to expand and to supply an ever increasing proportion of the local demand, to the detriment of the import trade."[2] This development will undoubtedly be accelerated by the high costs of importing goods resulting from the war.

The Australian textile industry has been growing rapidly since the war of 1914 under the protection of a high customs duty. Costs of production are high chiefly because of the costs of machinery and dyes, the shortage of skilled labour, and high internal transport costs resulting from the long distances. The outbreak of the present war led to an immediate increase in the attention devoted to the development of domestic production. It is too early to make any predictions regarding the effect on the textile industry of the increased efforts towards industrialisation, but it is not at all unlikely that they will stimulate expansion. Attention is already being directed to the manufacture of cotton fabric for automobile tires and heavy duck and canvas suitable for military purposes, the development of increased plant for spinning, doubling, and twisting, and the weaving of cotton piece goods. Representations have been made to the Prime Minister urging the introduction of the rayon industry on a large scale.[3]

In New Zealand the Minister of Industries and Commerce is authorised under the Finance Act (No. 2), 1940, to "do all such things as he deems to be necessary" to develop to the fullest extent the linen-flax industry in that country, and in October 1940 a New

[1] A resolution asking for the establishment of woollen factories in the Union of South Africa was adopted at the annual congress of the National Wool Growers' Association's Cape Town Branch. It read: "Congress is of the opinion that the present is a suitable time for the erection of a factory or factories for the manufacture of our wool into textiles, and makes an urgent appeal to the Government, through the Wool Council, to make a thorough investigation of the possibilities of such factories and to take the necessary steps under the direct control of the Government and the producer." (*Wool Review*, May 1940, p. 7.)

[2] United Kingdom, Department of Overseas Trade: *Report on Economic and Commercial Conditions in Egypt*, p. 44 (H.M. Stationery Office, 1939).

[3] Cf. *The Textile Journal of Australia*, 15 Feb. 1940, p. 534.

Zealand Government Official visited Canada to study the organisation of the Canadian flax industry.

The American Continent

Canada.

On the North American continent, Canada's industries are receiving extraordinary stimulation. Since the last war, Canada's textile industry has been growing rapidly, and in the past ten years the industry has spent an estimated 70 million dollars on new machinery, general equipment, new buildings, and establishment of new plants.[1] Cotton bale openings were 79 per cent. greater in the first seven months of 1940 than in the corresponding period of 1939. Rayon and wool production has increased rapidly, but much of the increased activity is on war orders. In August it was estimated that 65 per cent. of wool cloth capacity in Canada was devoted to the production of war goods.[2] The woollen industry has been one of the less prosperous industries of Canada in the last twenty years and has contracted considerably. At the beginning of this war, there was about 25 per cent. less woollen-yarn spinning equipment in Canada than in 1914.[3] Higher prices for textile machinery from Great Britain and the United States and the 10 per cent. duty on United States goods, as well as the increased cost of United States dollars, shortage of skilled labour, and increased raw material costs, are hindering expansion. Nevertheless, the industry is working very near capacity.

Production of raw flax fibre is increasing since the loss of the European supplies makes the flax shortage acute in the rest of the world. In 1939 Canada exported 1,300 tons of high-grade fibre. This year export expectations range between 4,500 and 5,000 tons. The high cost of labour has hindered the development of the Canadian flax industry, but in recent years machinery for retting and processing the fibre has been invented and has completely altered production conditions. Canada had already before the war installed a number of these machines and now their Belgian inventor, Maurice Sonenens, and his machines are in Canada and the machinery is being used as a model for more machinery at foundries in Quebec. R. J. Hutchinson, Chief of the Fibre Division of the Canadian Agriculture Department, has hopes that these developments will

[1] See 1940 edition of the *Manual of the Textile Industry of Canada*, p. 37 (Canadian Textile Journal Publishing Co., Ltd.).

[2] *Canadian Textile Journal* 16 Aug. 1940, p. 16.

[3] *Ibid.* p. 16.

enable Canada to compete in the production of flax fibre after the war.[1]

Increase of domestic production has been accompanied by an increase in both import and export trade. Exports have never formed a large proportion of Canadian production but since the war exports of cotton-duck and cotton fabrics, flax fibre, and even wool fabrics have increased. The United Kingdom, Australia, South Africa, and the British possessions in the West Indies have appreciably augmented their purchases of cotton duck and fabrics from Canada. Whereas in the first four months of 1939, the United Kingdom imported no wool fabrics from Canada, in the same period in 1940 it imported 5,418 yards. Newfoundland is also importing more wool and cotton fabrics from Canada than before the war. Although exports of fibre and tow of flax and hemp increased in value from $63,922 in the four months ending April 1939 to $170,269 in 1940, those of linen and jute manufactures declined from $4,230 in the same period in 1939 to $1,465 in 1940.[2]

Canadian industry does not meet the whole of the domestic and war demand for textiles, and imports have jumped in value and volume.[3] Cotton goods and woven rayon fabric imports have increased from the United States but declined from the United Kingdom. Wool imports from the United Kingdom are large and there are large stocks in the hands of Canadian firms, which, however, consider this a precaution against possible interference with imports from Britain.

The United States.

In the United States imports of textiles are small in proportion to domestic production, and should they be difficult to obtain or become too expensive, domestic production could be expanded although at relatively higher cost. The only group of manufactured textile products showing a significant increase in the first quarter of 1940 over the first quarter of 1939 was that of jute manufactures. The value of imports of cotton, wool, staple fibre, silk, flax, hemp, and ramie semi-manufactures and manufactures decreased in this period. Japan has been supplying by far the greatest part of the United

[1] Cf. *Canadian Textile Journal*, 2 Aug. 1940, p. 12.

[2] Figures taken from the DOMINION BUREAU OF STATISTICS: *Monthly Report of Trade of Canada*, Apr. 1940.

[3] The value of the imports of cotton fabrics in the first five months of 1939 was 45 per cent. of the corresponding figure for 1940, that of cotton yarns 67 per cent., of wool fabrics 32 per cent., of wool yarns 65 per cent., and of wool blankets 90 per cent. (*Canadian Textile Journal*, July 1940, p. 20).

States imports of cotton cloth, and these imports could be replaced by domestic production under the stimulus of higher prices. The fine and speciality fabrics obtained from the United Kingdom are very difficult to replace and will continue to be imported as far as possible. These fabrics are less likely to be affected by scarcity or shipping than the cheaper fabrics, since their value is greater in relation to their weight. United States domestic production of cotton textiles continued in 1940 at an exceptionally high level, and the value of the imports of cotton semi-manufactures and manufactures decreased by over a million dollars in the March quarter of 1940 as compared with the same period in 1939. The following table illustrates the increase in domestic production and decrease of imports that is resulting from the war in the case of staple fibre, although the extremely low imports of the second quarter of 1940 are probably the result of large stocks obtained in the fourth quarter of 1939.

UNITED STATES RAYON STAPLE FIBRE AVAILABLE FOR CONSUMPTION IN 1939

Million pounds

Quarter	Production[1]	Imports[2]	Available for consumption[3]	Production[1]	Imports[2]	Available for consumption[3]
First	20.5	9.0	29.5	10.9	10.1	21.0
2nd	19.1	3.2	22.3	11.5	10.9	22.4
3rd				14 0	10.0	24.0
4th				16.7	16.4	33.1
Year				53.1	47.4	100.5

Source: *Rayon Organon*, Aug. 1940, p. 123.

[1] Production by domestic producers, partly estimated. [2] Imports for consumption of rayon staple fibre and spun rayon yarn. [3] Staple fibre available for domestic consumption, being the sum of domestic production and imports.

A considerable shift in the sources of these imports has also been taking place. The nature of these shifts is indicated in the following table:

UNITED STATES STAPLE FIBRE IMPORTS FOR CONSUMPTION

6 months

Country of origin	1939		1940	
	pounds	per cent.	pounds	per cent.
Total	20,972	100	12,134	100
Japan	179	0.9	3,506	29.0
Italy	1,782	8.5	3,365	27.6
United Kingdom	14,151	67.0	4,682	38.6
France	3,129	14.9	357	2.9
Germany	1,317	6.3	120	1.0
Belgium	411	1.9	98	0.8
Others	3	—	6	0.1

Source: *Rayon Organon*, Aug. 1940, p. 125.

Imports from Japan and Italy increased 39 per cent. while those of the United Kingdom decreased 28 per cent. Italy is now out of the picture, along with France, Germany, and Belgium, and it is possible Japan will join these latter countries. In that event the position of the United Kingdom should improve, but domestic production will expand even more. It is conceivable that after the war the United States imports of rayon and staple fibre will be reduced to a negligible quantity. This, in conjunction with the tremendous increase that is undoubtedly taking place in European production under Germany, will create a most serious industrial maladjustment at the end of the war.

The imports of woollens have been obtained mainly from the United Kingdom, France, and to a smaller extent Japan and Italy. French and Italian goods are cut off, and consequently other areas may be able to increase their exports, but they cannot entirely replace French high-quality materials. Linen fabrics were imported almost exclusively from the United Kingdom, Czechoslovakia, and Belgium. The exports from Czechoslovakia and Belgium are stopped by the war, and the United Kingdom is having difficulty in continuing exports of these fabrics largely because of the problem of obtaining the raw material which comes primarily from the Baltic States and from Belgium. Belgium controls 60 to 70 per cent. of the world supplies of flax. In spite of Government action to control the prices of flax in England, they rose rapidly. For example, Courtrai flax, which had been around £90 a ton in August 1939, was over £400 a ton at the beginning of 1940.[1] An effort is being made to increase the acreage devoted to flax within the United Kingdom[2] and in Canada. The linen industry of the United Kingdom (mainly in Northern Ireland) has specialised to a great extent in the production of linen fabrics which are used for the manufacture of handkerchiefs, and the United States is its greatest market. There is no other adequate source of supply, so that if these fabrics are not obtainable from the United Kingdom, cotton will probably be used as a substitute for linen in the manufacture of handkerchiefs in the United States.

The composition and direction of the export trade of the United States has changed since the last war. Before 1914, two-thirds of

[1] *Textile Mercury and Argus*, Fiftieth Annual Trade Review, 23 Feb. 1940, p. 35.

[2] Agreements to put 1,000 acres under flax have already been put into operation in Scotland, where the quota is 2,000 acres. "There is every prospect of the Scottish flax industry really getting started after many vain efforts, as a result of the war pressure." (*Textile Mercury and Argus*, 15 Mar. 1940.)

the exports of the United States were composed of crude materials, principally cotton, one-fourth of foodstuffs, and less than one-half of finished and semi-finished goods. Since then important changes have taken place. Before the outbreak of the present war approximately two-thirds of the United States exports consisted of finished and semi-finished manufactures, one-fourth of crude materials, and the rest of foodstuffs. While before 1914 Europe took three-fifths of all shipments, now it takes only two-fifths, and the percentage of the total trade going to Asia has increased appreciably.[1] The volume of United States exports since the outbreak of war in September 1939 has soared far above pre-war levels, and in August 1940 values were 40 per cent. above those of August 1939. "The figure for the war period has not been exceeded in any comparable period since 1929-30."[2] Most of the increase was due to shipments of war materials, but the exports of textile fibres and manufactures were 65.6 per cent. greater in the six months ending February 1940 than in the six months ending February 1939. The value of exports of cotton semi-manufactures and manufactures rose by 7 million dollars in the first quarter of 1939 as compared with those of 1940, those of wool by 5 million dollars, and those of rayon and other synthetic textiles by 1 million dollars.[3] The proportion of the total production of cotton cloth exported increased from 7.7 per cent. in the first quarter of 1939 to 9.6 per cent. in 1940.[4]

The colonies were among the Netherlands' best customers for textiles, and since this demand can no longer be met by the Netherlands, other sources of supply will become of increased importance. Before the invasion of the Netherlands, the demand from the Netherlands Indies for United States textiles was increasing, and this tendency may be expected to become more pronounced. The same is true of the Union of South Africa and lesser markets.[5]

South America.

The war opens a large field for United States exports to South America. But the degree to which these exports can be expanded will depend upon the industrial development within the various

[1] Cf. UNITED STATES, DEPARTMENT OF COMMERCE: *Survey of Current Business*, Jan. 1940. p. 9.

[2] *New York Times*, 24 Sept. 1940.

[3] UNITED STATES, DEPARTMENT OF COMMERCE, *op. cit*, p. 447.

[4] *Ibid.*, p. 443.

[5] Cf. UNITED STATES, DEPARTMENT OF COMMERCE: *Commerce Reports*, 9 Mar. 1940.

South American countries and the ability of other countries to increase their exports to this area, which in turn depends to some extent on their ability and willingness to receive South American exports.[1] Commodities produced by the United States are in most cases competitive with those produced by the countries of South America. This of course is the chief obstacle in the way of an expansion of trade between the two continents. Nevertheless, the United States has increased its takings of some categories of goods from South America. For example, the proportion of apparel-wool imports which is obtained from Argentina is almost three times the average for corresponding periods since 1935 although imports from South Africa are about six times as heavy as they were. About 50 per cent. of the United States demand for carpet wools, which were formerly imported primarily from China (the source of one-third to one-half of total carpet-wool imports), India, Egypt, Scotland, Syria and Iraq is now supplied by Argentina. Rationing and high freight rates have reduced imports from India and Scotland, and China and Syria are out of the market.[2]

The war of 1914 greatly stimulated industrial development in the various countries of South America, and since then industry has continued to expand under Government protection. "In many South American countries—Brazil, Argentina, Bolivia, Colombia, Peru—cotton manufacturing has been expanding at a rapid rate, so that significant proportions of home demand formerly supplied by imports are now satisfied by domestic production."[3]

In 1935 the industrial census in Argentina showed 4,712 textile establishments with an invested capital of over 300 million pesos, as compared with 1,743 establishments in 1914 with a capital of only 34 million pesos. Most of the cotton yarn production is of counts below 40's. The average count is between 14 and 18. The tendency, however, has been to spin increasingly higher counts, and if the war causes a great rise in yarn prices it will become increasingly profitable for domestic producers to begin spinning the higher counts. Argentine imports of yarns and piece goods have been steadily declining. Although before the war imports of coloured yarns and

[1] "During January, South America more than doubled imports of all goods compared with January 1939. Argentine alone upped its demand 226 per cent. during the first month of the year, Brazil almost doubled its previous January total". (*Business Week*, 24 Feb. 1940, p. 15.)

[2] Cf. *Annalist*, Sept. 19. 1940.

[3] INTERNATIONAL LABOUR OFFICE: *The World Textile Industry*, Vol. I, p. 125.

unbleached piece goods had increased, unbleached yarns and dyed and coloured piece goods had fallen markedly. It is estimated that the Argentine textile industry supplied 85 per cent. of the total domestic demand for woollen goods, 40 per cent. for cotton goods, and practically the entire requirements for hosiery, other knit goods, and silk and rayon manufactures.[1] Brazil supplies the home market with certain classes of textiles, but does not produce the higher counts. According to the United States *Commerce Reports* of August, Peruvian "factories in general operated on the full 48-hour schedule, but a few of the textile mills required extra shifts. The higher cost of imported goods during the first half of 1940 has enabled the domestic manufacturers to install new equipment, increase output, and work with a wider margin of profit".[2]

The textile industries of South America before the war were faced with the same difficulties in disposing of their production as the textile industries in other parts of the world. In some of the South American republics, including Peru and Brazil, restrictions on the importation of textile machinery were put into force at various times in order to check expansion of the industry.[3] At the same time there were large imports of yarns and piece goods, principally from the United Kingdom, the United States, Japan, and Italy. Japan had been increasing its exports, while those of the United States, the United Kingdom, and Italy were declining, although in the first nine months of 1939 Great Britain's position was improving. Italy had made special agreements or arrangements with Uruguay, Brazil, Mexico, and Argentina, and before its entry into the war its exports to South American countries were reviving. A trade agreement has been signed between Japan and Argentina under which the latter authorises greater imports of Japanese textiles (the most important of Japan's exports to Argentina). Certain cheap woollen yarns were formerly imported into Argentina from Poland, and Japan is taking the place of Poland in supplying these yarns.

Rayon yarn production of the countries of South America increased about 60 per cent. from 1938 to 1939 while imports de-

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[1] See Rafael GARCIA-MATA and Emilio LLORENS: *Argentina Económica*, pp. 121-124, (Buenos Aires, 1939).

[2] UNITED STATES, DEPARTMENT OF COMMERCE: *Commerce Reports*, 10 Aug. 1940, p. 679.

[3] The Brazilian prohibition of the installation of new machinery to manufacture substitutes for silk was abolished by a Legislative Decree dated 2 February 1940.

clined 12 per cent.[1] Before the war Italy, Germany and Japan were the principal suppliers, but in 1939 the Netherlands, France, the United Kingdom, and the United States increased their exports to these markets.

The United States is endeavouring to facilitate trade with South America and to capture some of the markets formerly supplied by Germany. The Import and Export Bank is making favourable financial arrangements, and special credit facilities are offered to South American buyers.[2] Some expansion of the trade in textiles between the various American States is already taking place. Brazil and Argentina especially have increased exports to each other and to some of the other countries in South America and elsewhere.

In March 1940 in Argentina, " . . There was a noteworthy increase in the quantity of cotton yarn which arrived from the United States. It has been learned recently that Argentina is beginning to export cotton yarns to South Africa, and, whilst this may be only a temporary phase due to the war, it illustrates the stimulus which the European hostilities are giving to the Argentine textile industry . . . The local textile manufacturing industry is not only

[1] The estimated consumption, production, and imports of Rayon Yarns in the principal Central and South American Countries in 1938 and 1939 was as follows (inmillions of pounds):

Country	1938			1939		
	Production	Imports	Available for consumption	Production	Imports	Available for consumption
Argentina....	2.7	4.9	7.6	5.8	4.0	9.8
Brazil.....	10.5	0.5	11.0	15.1	0.2	15.3
Chile.....	—	2.7	2.7	—	2.6	2.6
Colombia....	—	1.5	1.5	0.2	1.8	2.0
Cuba.....	—	1.0	1.0	—	1.5	1.5
Ecuador.....	—	2.5	2.5	—	3.0	3 0
Mexico.....	—	9.6	9.6	—	6.3	6.3
Puerto Rico..	—	0.1	0.1	—	0.2	0.2
Peru.....	—	1.0	1.0	—	1.1	1.1
Uruguay.....	—	0.9	0 9	—	1.0	1.0
Venezuela....	—	0.5	0.5	—	0.5	0.5
Others.....	—	0.2	0.2	—	0.2	0.2
Total.....	13.2	25.4	38 6	21.1	22.4	43.5

Source: *Rayon Organon,* July 1940, p. 112.

[2] "There has been a big increase in South America's financial and trading relations with the United States. Chile has secured a loan. Paraguay is embarking on a large programme of reconstruction backed by the United States Import and Export Bank. Brazil negotiated a credit agreement in March." *The Economist,* 30 Dec. 1939, p. 506.

increasing output considerably, but is producing articles of better quality and larger range, and this tendency is expected to become more pronounced as the war continues . . . The trade in woollen cloth for military uniforms and greatcoats, which was formerly in German hands, has now gone to the local industry."[1]

It is the production of the finer yarns and fabrics that the war will probably affect most. Britain will continue to supply many lines, but the range of counts manufactured by the South American textile industries will probably be extended as prices of imported goods rise or as the goods become more difficult to secure in any circumstances.[2]

Thus the textile industries of South America will certainly expand if prices rise and some goods become unobtainable. The spinning and weaving of finer and better quality yarns and fabrics will be encouraged by the war, and to some extent there may be a diversion of trade to the United States, since the United Kingdom, and probably Japan, will be unable to avoid some diminution in exports; nor will they be able entirely to replace continental goods. An organised export policy, on the part of the United Kingdom, however, will undoubtedly prevent this diminution from proceeding as far as it would if no attention were directed to the maintenance of exports.

Conclusion

In peace time the gradual character of the rise of new industrial centres affords opportunity for the gradual adjustment of the old centres. With the outbreak of war sudden changes in production and trade occur, the full effects of which are obscured by the abnormal conditions surrounding the economic relations of countries. War in some cases intensifies and accelerates previous trends and in other cases retards or reverses them. If previous trends are reversed, difficult problems of readjustment in industry will arise when peace time economic relations are restored. When previous trends are reinforced, the rate at which development takes place is so rapid that smooth adjustment in the economic structure of the world is impossible, and severe dislocation results. Since full employment is rare and mobility of the factors of production far from perfect, adjustment to an in-

[1] Bank of London and South America, Limited: *Fortnightly Review*, 20 Apr. 1940, pp. 91-92.

[2] "The general tendency of the (South American) market for imported increasingly centred in the hands of the local manufacturing industry owing to the heavy rise in prices of imported goods." (*Textile Mercury and Argus*, 29 Mar. 1940.)

crease in demand is much easier than adjustment to a decrease in demand. The expansion of industries in newer centres in response to the demands left unsatisfied because of the difficulties facing their old suppliers, although accompanied by many problems, is nevertheless easier than contraction of those industries which have lost their markets.

After the war of 1914 tremendous shifts in the importance of textile-producing areas occurred, the most marked of which was the relative decline of Lancashire and the rise of India and Japan. However, in 1914-1918 very little attention was given by Great Britain to her export trade, while to-day greater efforts are being made to maintain it. War may merely accelerate the rise in newer centres, but unfortunately, shifts that occur during war occur at a rate and under conditions that do not allow adjustment in the displaced centres. The effort to maintain British exports will undoubtedly result in a less rapid and less far-reaching development elsewhere than would have taken place if these exports had been neglected, and thus will minimise the extent of the shifts. Of the important textile-exporting countries, only Switzerland, Russia, and the United States are not at war. Of the belligerent countries, only the United Kingdom, India, and Japan are in a position to export to any appreciable extent. Consequently the exports of these countries have less competition to meet than before the war, but because of higher costs and war demands, especially in the United Kingdom and Japan, export expansion is severely handicapped and thus there is scope for extra-European producing centres to expand their production. If the war is followed by a period in which trade barriers are lowered, international trade will increase in volume, although there will probably be changes in its composition. Even if the attainment of self-sufficiency is no longer the post-war goal of nations, yet the desire for a more industrialised economy will probably become stronger, especially in the countries with agricultural over-population, with few natural resources, or with a "one-crop" economy. Increased industrialisation of the agricultural countries of the world will increase their demands for imports of machinery, certain raw materials, and capital. This will bring greater opportunities for the more advanced countries to develop certain classes of exports and for countries producing raw materials to increase their trade with each other. Those classes of industries, however, which do not require highly specialised labour or large amounts of capital, and which produce for the domestic market, will be among the first to expand in the newer industrial countries. Export industries of this kind in the older industrial centres will be faced with the greatest difficulties after the war.

Since the primary advantage possessed by many of the newer industrial areas is a large supply of labour at a relatively low cost, the industries requiring large amounts of labour in proportion to the other factors of production will be the easiest to establish. However, in some less industrialised areas the supply of labour is relatively small and consequently wages are high. In these areas wartime expansion of existing industries is very likely to be a temporary condition, and unless high tariffs protect these industries after the war, considerable contraction will be inevitable. Canada and Australia are two countries in which nearly all industrial development requires high protection. Mechanisation of the Canadian textile industry has been rapid in the last ten years and is largely a result of the high cost of labour. Technical advance in the production processes of the textile industry has been so rapid that the plants equipped with the most modern machinery, even though labour costs are high, have a competitive advantage over the plants with lower labour costs but antiquated equipment. Labour-saving techniques have developed most rapidly in the cotton industry since 1918 but are marked in most branches of the textile industry. Industrial advance in "new" countries will be greatest where there is a large labour supply and, in addition, access to domestic or foreign capital.

There are, it is true, many simplifications in the argument presented in this article. Exchange control, accompanied by rationing of foreign exchange, directs trade in many cases into channels other than those that would be followed if purchasers were allowed free access to the cheapest market. Government control of investment, instituted in many countries, will affect the course of industrial development and hinder the growth of types of industries not favoured by the Government.

Industrialisation in most countries is to a greater and greater extent being "planned" by national authorities with reference to some defined end. This tendency is accentuated in wartime and may easily result in an industrial development quite different from that which past experience might lead us to expect. For example, the development of the Australian economy may in some respects be planned to complement that of the United Kingdom and, especially in wartime, be determined by the needs of the United Kingdom.[1] These qualifications of our general argument may become increasingly important as the war advances, but underlying the myriad currents and cross-currents in world economic relations are certain simple and basic economic principles, the recognition of which will enable coun-

[1] Cf. E. R. WALKER: *War-Time Economics with Special Reference to Australia,* Chapter III (Melbourne University Press, 1939).

tries to adjust their economy most advantageously and with least cost to themselves.

The extent to which this war will cause new changes or speed up existing ones will depend, of course, on the length and character of the war. The effect of further destruction, changes in national boundaries, and similar problems, have not been discussed in this article. Furthermore, long-run economic changes take time to work out. With these qualifications the analysis presented here may have a certain value not only for the textile industries but for other industries, especially those whose products enter into international trade. Similar analysis in fuller detail of the characteristics and trends in any industry may yield significant results regarding the effect of war on the relative importance of the different producing centres.

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