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## THE NATIONAL BUREAU AND TWO WARS

OUR DIRECTOR who represents the American Statistical Association recalled, in his presidential address last December, the imperative need for economic statistics felt by the War Boards in 1917-18 and the paucity of the supply. Many matters that should have been known had to be guessed at, and new agencies had to be set up in a hurry to collect data that industries found difficulty in providing amidst the rush of war work. Mr. Riefler then dwelt upon the great impetus this hard lesson gave to statistics after the war, and the benefits the country is now deriving from more thorough acquaintance with its own affairs.

Most of the founders of the National Bureau had participated during the earlier World War in the desperate scramble for quantitative knowledge of requirements and supplies, prices and wages, industrial equipment and delivery schedules, taxable incomes and family consumption, costs of production and shipping facilities. Personal experience led them to believe that realistic study of economic activities on a quantitative basis is no less essential in peace than in war. Our Bureau is thus one of the agencies for public service that grew out of the troubles Mr. Riefler mentioned. That is not less true because it was a product of private initiative, supported by public-spirited citizens, and designed to conduct scientific research rather than to meet the administrative needs of government.

Now that the country is caught in a new war vastly greater in its economic demands than the war of 1917-18, what the National Bureau has done since 1920 is proving its worth in many ways. Again our government is seeking to mobilize all the country's resources as quickly as possible to achieve victory, and again those who direct the undertaking must find out what goods can be delivered in what quantities at what places, within what time, and what civilian activities it is necessary to maintain. The knowledge required for this purpose is staggering in

volume and bewildering in detail. By no means all the data wanted by the new war agencies and the old departments can be had, and many estimates are perforce being hazarded. But, as Mr. Riefler pointed out, our present administrators are much better off than were their predecessors a quarter of a century ago, thanks to the progress of research since 1918. That the National Bureau has contributed a portion of the knowledge now being put to use should gratify all associated with it, and be a spur to future efforts.

#### WAR USES OF ECONOMIC FINDINGS

Amidst the huge mass of economic data applied to guide the war effort, estimates of national income are basic. President Roosevelt has summed up the country's call upon all its people by saying that more than half of the expected national income must be devoted to the winning of victory. Thanks to fuller knowledge accumulated from research, the government can determine broadly how many billions can be appropriated to the armed services and how this diversion will affect civilian consumption. The breakdown of the totals by size of income, despite its imperfections, is used in drafting tax legislation. A breakdown by type of income helps to gauge what contributions can be expected from wage and salary earners, from profit makers, and from recipients of dividends, interest, and rent. Still another breakdown, by industrial source, indicates the roles played by agriculture, mining, manufacturing, construction, transportation, trade, personal services, the professions, and government itself in providing livelihoods for our people. Having estimates of gross national product to compare with the figures of national income, officials can approximate the sums annually needed to offset depreciation, depletion, and obsolescence. Estimates of consumers' incomes and expenditures, in combination with studies of capital formation and consumption, offer one means of estimating the savings that can

be borrowed by government or invested under private auspices to pay for new industrial equipment. If we had these figures for only a single year they would be useful. They are far more useful for being available over a considerable period. One of the crucial problems is how the war will affect the size and make-up of national income, and that complex question is best approached by studying the changes in national income during the past generation. Thinking in terms of national income has become a habit among officials in Washington, and the habit is spreading among the alert executives of business enterprises throughout the country. Not only do estimates of national income give government the best basis we have for over-all economic planning, whether in war or in peace, they also give business men, investors, and labor leaders a basis for anticipating demands for commodities, capital, and labor so far as these demands depend upon the condition of trade at large.

What is now known about this fundamental magnitude has been learned in large part since the National Bureau was founded, and in no small measure through its efforts. Our first investigation, carried out by Messrs. King, Knauth, and Macaulay, dealt with the size and distribution of the income of the United States in 1909-18. Our staff has kept at this subject ever since, carrying its estimates forward through later years and improving upon the earlier figures by utilizing new sources and by thinking through the intricate conceptual problems encountered in such work. Some of our publications have been highly technical and have had a correspondingly narrow appeal. The justification of the long continued effort is now clear. So also is the value of the collateral inquiries by Solomon Fabricant into the capital currently formed and consumed. Most of our substantive and conceptual results are summed up in Simon Kuznets' *National Income and Its Composition, 1919-1938*, released in January. C. Reinold Noyes, in reporting to the American Economic Association, which he represents upon

our Board of Directors, said of this treatise: "The summation of the author's years of work in the field presents, for the first time so far as my knowledge goes, the fundamental analysis of an economy in quantitative terms, sufficiently complete and covering a period long enough to show the dynamic as well as the static picture. It is an X-ray movie of the behavior of the American economy during twenty momentous years."

The National Bureau feels the more satisfaction in this accomplishment because other agencies and individuals not members of its staff shared so largely in it. From the start we received generous cooperation from many sources, public and private. When the Conference on Research in Income and Wealth was set up in 1936, this collaboration became wider and more continuous. In 1933 the Department of Commerce took over the preparation of annual estimates of national income, first in response to a Senate resolution, then as a regular feature of its statistical reporting. To get the work started, the government borrowed Mr. Kuznets for a year as its chief investigator. In two papers presented to the American Economic and Statistical Associations in December he rendered another service by focusing his investigations upon two pressing problems: (1) 'What effects a diversion to war uses of say half of the national income is likely to have upon consumers' expenditures, capital formation, and investments'; (2) 'What total will national income probably reach and what will the taxable capacity of the country be during the postwar decade?' The first will appear as National Bureau *Occasional Paper 6*, while the second will be published in the *Proceedings of the American Economic Association*. We believe that many uses will be found also for the latest of our income studies, Harold Barger's *Income and Outlay, 1921-1938*, which gives estimates of national income by quarters instead of years, together with certain components not hitherto covered in detail.

Other findings of the National Bureau that have been or are

being used by the government to meet the emergency come from the Conferences on Price Research and Financial Research. When it was planning to restrict installment selling as one safeguard against price inflation, the Federal Reserve Board relied heavily upon our eight studies of consumer financing. The Office of Price Administration has been utilizing some of our price studies in its intricate and responsible task of establishing price 'controls'. More at large, what has been learned since the 1914-18 war by the National Bureau and other agencies about secular, cyclical, seasonal, structural, and random movements helps governmental and business statisticians to draw sound conclusions from time series. The mutual relations among economic activities have long been observed by practical men and schematically expounded by economic theorists. Realistic research on the quantitative level, combining methodical observation with explanatory hypotheses, has put a firmer foundation under much that has been thought in the past, added much to it, and vastly increased the practical value of the whole.

#### WAR WORK BY STAFF MEMBERS AND COLLABORATORS

Not only is the government using National Bureau findings extensively, it is taking many of our workers into its service.

The following men formerly on our payroll have resigned or have been granted leaves of absence to enter the armed forces, federal offices, or allied war work.

#### STAFF

Simon Kuznets, <i>War Production Board</i>	David Rolbein, <i>Division of Civilian Supply</i>
Milton Friedman, <i>Treasury Department</i>	Frederick Strauss, <i>Office of Price Administration</i>
William H. Shaw, <i>Department of Commerce</i>	P. B. Nortman, <i>Office of Price Administration</i>
Julius Shiskin, <i>War Production Board</i>	Marcus Jacobs, <i>United States Army</i>
Augustus Kelley, <i>United States Army</i>	

#### BUSINESS-CYCLE COLLABORATORS

James W. Angell, *Division of Civil-  
ian Supply*      Walt W. Rostow, *Office of Coordi-  
nator of Information*  
Rollin F. Bennett, *Division of Civilian Supply*

#### CONFERENCE ON RESEARCH IN INCOME AND WEALTH

C. Lowell Harriss, *Treasury Department*

#### CONFERENCE ON RESEARCH IN FISCAL POLICY

Reynold E. Carlson, *Division of Civilian Supply*      Eugene Oakes, *Treasury Department*  
John Fennelly, *War Production Board*      Kenyon Poole, *Treasury Department*  
Dan T. Smith, *Army Procurement*  
Gabriel Hauge, *Naval Reserve*

#### FINANCIAL RESEARCH PROGRAM

Richard Berger, *Office of Price Ad-  
ministration*      S. Grant Saunders, *Defense Contract  
Work*  
Stanley Miller, *Office of Price Administration*

The following men now on our payroll are acting as part-time consultants of governmental agencies.

#### STAFF

Moses Abramovitz, *Office of Price Administration*

#### CONFERENCE ON PRICE RESEARCH

E. S. Mason, *Office of Coordinator of Information*

#### CONFERENCE ON RESEARCH IN FISCAL POLICY

Lawrence Seltzer, *Treasury Department*

#### FINANCIAL RESEARCH PROGRAM

Sidney Alexander, *Office of Price  
Administration*      Walter Chudnowsky, *Office of Price  
Administration*

The following men who have been collaborating on our researches without salary from the National Bureau are now in governmental service.

#### CONFERENCE ON PRICE RESEARCH

Arthur R. Burns, *Civilian Allocation, War Production Board*      D. H. Wallace, *War Production Board*  
M. G. de Chazeau, *War Production Board*      R. H. Whitman, *War Production Board*  
Joel Dean, *Office of Price Administration*

#### CONFERENCE ON RESEARCH IN FISCAL POLICY

Randolph Paul, *Treasury Department*      Jacob Viner, *Treasury Department*  
Keith Butters, *Office of Price Administration*

#### FINANCIAL RESEARCH PROGRAM

Winfield W. Riefler, *Board of Economic Warfare*

We may note also that President Roosevelt's Fact-finding Board, appointed to study the wages of railway employees, borrowed for a month or more the services of Arthur F. Burns, Thor Hultgren, and Gerald J. Fischer of our business-cycle staff. Probably more of our co-workers will be called upon to serve the government in months to come. It is the National Bureau's privilege and policy to do all that it can to facilitate such shifts.

We do not expect, however, that these transfers of our co-workers to public service will or should put a stop to our own researches. For reasons set forth below, we believe that the National Bureau can serve the country best by continuing to work upon economic issues fundamental to the common welfare. A considerable part of our staff is still intact, and we can obtain qualified recruits who, for one reason or another, are not available for federal employment. What the country will need that the National Bureau can help to supply, and what



changes should be made in its plans are considered in the following pages.

#### POSTWAR NEEDS FOR ECONOMIC KNOWLEDGE

One respect in which the economic mobilization of 1941-42 differs from that of 1917-18 is that more thought is being given to the difficulties that will attend the return to peace. This foresighted attitude must be credited in part to recollections of the troubles into which the nation fell in 1920-21, in part to the nightmare of the Great Depression in 1929-33, and in part to our uncertain relation to the war before December 7. So long as the country was thinking in terms of national defense, most government agencies and many private enterprises took time to look ahead and consider how current policies would affect postwar conditions. How prevalent this attitude was last October is demonstrated by *A Survey of Institutional Research on American Postwar Problems*, prepared by George B. Gallo-way and issued in mimeographed form by the Twentieth Century Fund.\* There is some evidence that the sudden plunge into a 'shooting war', and the gravity of the military-naval problems facing the country, have already diminished the attention paid to the future. That change is natural. But it will be a dire misfortune if no thought is given during the war to ways and means of coping with the problems that will confront us as soon as peace is made. Fortunately, there seems slight danger that this error will be committed. Certainly, the National Bureau should be ready to aid in reconstruction no less than it is ready to aid in the war.

An organization that hopes to render future service to public welfare is forced to peer into coming years, however low the visibility may be. For it cannot lay its plans wisely except as it anticipates future needs. The following paragraphs are not a presumptuous excursion into prophecy on the part of a

\* A revised edition is in course of publication.

'fact-finding' agency, but an essential feature of its planning for research. Some chart of the future the National Bureau must draw for its own guidance amidst the bewildering uncertainties of today. That is, we should try to descry as best we may the least improbable line of developments, and arrange our work now to provide what we can of the economic knowledge our sketch suggests will be wanted after the war.

What the National Bureau should attempt to learn cannot be foreseen in detail; for we do not know how long it will take to win victory, in what condition our domestic affairs will be at that uncertain date, or what form international relations will assume. But of a few fundamentals we can be sure. The primary economic processes of producing and distributing the goods that constitute real income will go on. Men will not give up the manifest advantages of division of labor or of modern technology. That will entail the training of workers for innumerable tasks, many of them requiring advanced education. It means also demand for industrial equipment on a large scale; that is, for capital and for saving. Services must be exchanged for commodities, and different commodities and services for one another, on a scale not less elaborate than we practice today. For that purpose money of some sort will be indispensable, and somehow prices must be determined. Somebody must bear the risks of present investment for future production. Since men must trust one another in their economic dealings over time, credit in some form will play a role. These essential processes must be organized in some way that will enable men to produce goods for others in confidence that others will supply what they want.

What form this organization will assume is one of the chief uncertainties. But earlier experiences of return from war to peace, coupled with knowledge of what is going on today, and will probably go on in more stringent fashion as we get deeper into the war, suggests certain probabilities. Civilian consump-

tion of many goods will be curtailed during the war, especially the consumption of luxuries and of durable commodities that can be made to serve longer than is agreeable. A huge demand will accumulate for consumers' goods of many types—a demand that our people will be eager to satisfy when the war ends. The transition from war to peace will require a vast expenditure upon reconverting the 'arsenal of democracy' into a plant for serving life instead of death. That expenditure may be comparable with the current outlays for transition from peace to war. Also current maintenance of industrial equipment will have been neglected in many instances; repairs, renewals, and replacements will be needed on a large scale. Thus the huge demand for consumers' goods will be supplemented by a huge demand for producers' goods. The like will be true in more extreme degree of our major allies, and probably in a degree yet more extreme of our present enemies. It is further probable that, however cheerfully our people bear the burdens of war, they will become restive under regimentation, and eager to throw off restrictions as soon as the emergency is over. An irresistible urge to resume customary activities gripped men of affairs after the Armistice of 1918 and is likely to grip them again. The thousands of business men now aiding in the economic mobilization will be eager to get back to their own affairs in time to profit by the promising market. Millions in the army, navy, and air forces, or working under high pressure on government contracts will welcome release.

Of course, one can imagine a very different outcome of the war. Defeat and subjection to foreign domination has no place in our reckoning. But perhaps peace will be signed on terms that preclude general demobilization. Or the struggle may be so long and so hard as to bring about profound changes in our political and economic institutions. After the war of 1914-18, one country on the winning side as well as several countries that suffered defeat underwent a domestic revolution. Some such

fate may be in store for the United States. But our history has been one of evolutionary changes by constitutional methods. To suppose that a large proportion of our people will lose confidence in the institutions they are fighting to defend and demand a radical change seems less reasonable than to suppose that they will adapt their traditional methods to varying circumstances in their wonted fashion. The assumption here chosen as the least unlikely is merely that the alterations brought about by the war will not abolish business enterprise under common rules and regulations prescribed by a democratically chosen government, and that at least a large part of the enlisted men, munitions workers, and federal officials will return to civilian pursuits.

If this forecast is not wholly wrong, the year or two after peace has been established will see the American people trying to resume their old way of life under their accustomed form of economic organization. No one thinks that 'reconstruction' can be a complete return to the *status quo ante*: conditions in this country and abroad will have altered too much for that. But our former scheme of organization was flexible and could be adapted to a wide range of circumstances. Probably most Americans will have a happy confidence that they can make their livings again much as they made them in prewar days.

Doubtless there will be some months of dislocation accompanied by declining activity after the next armistice as there was after November 1918. How long this phase will last no one knows. The National Bureau's studies in business cycles indicate that the peak of activity during the preceding war came in August 1918, and that the subsequent decline lasted only eight months. A longer duration may now be expected on the supposition that a larger portion of our energies will be drawn into the war effort and kept there longer. If so, readjustment will be a more formidable task and may take more time. But, according to our chronology of business cycles, the contraction of

1918-19 lasted only six months in Great Britain and ten months in France. It seems pessimistic beyond the demands of prudence to expect that our present war will last much more than four years, absorb relatively more of our strength than Great Britain and France expended in their life and death struggle with Germany, and leave us less able to recuperate than they were in 1919. Nor is it likely that revival will long be held back by lack of buying power. Demobilization is accompanied by a lavish outpouring of public funds; millions of war workers steadily employed for many months at high wages accumulate in the aggregate huge cash reserves; some billions in small government bonds can be turned into money if the owners want additional funds; presumably consumer installment credit will expand vigorously as soon as restrictions are removed. Given a general desire to make up for the forced economies of war, it seems reasonable to expect that a great spending campaign will start a few months after the close of hostilities. But at best this expectation has a shaky foundation—the probability that what we have done before under the conditions produced by a major war we shall do again under conditions that bid fair to resemble those prevailing in 1918-19, in certain salient features.

How long the expansion initiated by this development will run is even more uncertain. Much will depend upon the degree in which war has impoverished mankind, the attitude toward government it has engendered, our relations with other nations, and the feasibility of financing the latter's postwar needs. Nor can we foresee how well or ill we shall make our traditional mixture of private enterprise and governmental intervention work under postwar conditions, or with what changes in the mixture of these two ingredients we shall experiment. However these matters turn out, the real test of our economic organization is likely to come, not immediately after the war but during the years when we are trying to resume 'business as usual'. That will be the time when we shall need most sorely

all the economic wisdom we can muster. For the economic problems of peace are really harder than those of war—harder partly because we do not see them so clearly as matters of national concern.

THESE POSTWAR NEEDS  
AND THE NATIONAL BUREAU'S PROGRAM

Taking the preceding guess as the best we can make at present, what modifications are called for in the National Bureau's program?

So far as the United States preserves the pattern of economic organization it had evolved before the war, what can be learned from the past will continue to be the safest guide to the future. Analysis should reveal both the weak and the strong points in our complex of institutions. Those who seek to effect changes and those who seek to conserve the old will appeal to failings and successes in support of their contentions. Few advocates or opponents of specific measures will have the time, patience, technical equipment, and objectivity required to study thoroughly the lessons experience has to teach. Those who project plans never tried before will base their speculations upon assumptions, explicit or tacit, concerning resources and human behavior. The validity of these assumptions must be checked by realistic inquiry before the trustworthiness of conclusions drawn from them can be judged. There will, therefore, be more need than ever in the postwar world for thorough research under controls that guard against bias.

This outlook demands a program of research focused upon fundamental economic activities and their relations one to another. Whatever specific conditions confront the country, and whatever changes in economic organization are proposed, we must take account of such matters as how production and prices interact; the interrelations among wage rates, costs of production, employment, payroll disbursements, the volume of con-

sumers' purchases and of investment; the bearing of our efficiency as workers upon how much national income there is to divide among us; the proportion of current output that must be devoted to the upkeep of industrial equipment and the additional capital that must be invested if the nation is to increase its real income; the economic effects of varying tax loads raised in different ways; how public debts affect civilian welfare; the ways and means of financing business enterprises, large and small, through public or private agencies; our failures to approximate full employment of our resources, and the recurrent expansions and contractions that have accompanied our economic growth. In short, inquiries into the actual workings of the American economy, such as the National Bureau has conducted and is carrying further, promise to be applicable to the fundamental economic issues the country will face when military victory has been won.

We ought not to rest content, however, with a blanket reassurance that our current undertakings will continue to have value. More searching self-examination is requisite to form wise judgments regarding the allocation of our resources. That is the aim of the following review of our program and the suggestions for alterations in it.

### *The Business-Cycle Program*

If we are right in thinking that the severest test of our economic organization will come, not immediately after the peace, but during the years when we shall be trying to resume our wonted way of life, then the issue of maintaining approximately full employment of resources will reassert its crucial importance.

For more than a decade the National Bureau has been working on that problem. Our line of attack has been based upon the belief that it is well to know facts before explaining them or adopting remedies for what is amiss. Much as the medical pro-

fession has found that close clinical observation of diseases is prerequisite to successful treatment, so we have thought that careful examination of what happens in the successive stages of a business cycle is necessary if we are to determine which of the numerous hypotheses concerning their causes have claim to acceptance, and which, if any, of the numerous 'cures' now advocated promise to give the best results in practice.

Acting on this view, we have assembled a large collection of time series that record the fluctuations in a wide variety of economic activities. While American records of this type are most adequate, we have included British, French, and German records, because business cycles are international phenomena and their course here is profoundly influenced by their course in countries with which the United States has large commercial and financial dealings. To get the most from these records, we have devised a method of measuring the cyclical behavior of time series that enables us to compare series representing different activities, periods, and countries with respect to the manner, regularity, timing, and amplitude of their reactions to the tides of expansion and contraction. The results already in hand give a more accurate motion picture than has been made heretofore of the multiform readjustments among different parts of the economy during a business cycle.

This clearer and fuller insight should be put at the disposal of officials, business men, labor organizations, and investors to aid them in avoiding errors to which the first postwar expansion will tempt all classes—errors of the sort committed in 1919-20 leading to the drastic, though brief, depression of 1920-21, errors repeated on a grander scale in the late 1920's with still sorer consequences. Thoughtful leaders in public and private life will have the danger of such an economic collapse in mind, and in their efforts to avoid what happened after the preceding war many may be eager to avail themselves of the lessons of experience as summed up in our findings.



Of course, the first postwar business cycle will run its course under novel conditions, which will make it unique. But that has been true of every business cycle in the historical record. Our record exhibits the peculiarities characteristic of postwar cycles as well as cycles under ordinary circumstances. To neglect the teachings of experience because of strikingly novel elements in the situation to be coped with would be no less foolish than to assume that experience will repeat itself without a change.

Our plans for carrying out the business-cycle program have already been altered by the war, and we think further modifications desirable. As noted above, four of our collaborators who have been working upon the cyclical behavior of prices, inventories, foreign commerce, and banking are now devoting part of or all their time to governmental work. That will delay, how seriously we do not know, the completion of their parts of the task. Also we have lost the help of five able assistant investigators. Perhaps other shifts of staff to Washington will cause more delays.

Nevertheless we contemplate a speeding up of publication. Hitherto, it has been the practice of the National Bureau to make an investigation as thorough and complete as our means and personnel allow before releasing it. In view of the pressure of the times, we feel justified in publishing results at a less mature stage. Thus we plan to prepare as soon as possible an *Occasional Paper*, perhaps a slender volume, presenting a summary of our tentative findings concerning the typical changes that occur within the American economy during the successive phases of cyclical expansion, recession, contraction, and revival in business activity. Though many of the results may be modified in subsequent revisions, and though many gaps will later be filled, prompt availability now seems more vital than the perfecting and completing of details.

We should also like to prepare a brief monograph upon war

and postwar cycles. Our materials give a fragmentary outline of American cycles in 1861-67, 1867-70, and 1870-79. They give a fuller picture of British cycles in 1914-19, 1919-21, and 1921-26; of French cycles in 1914-19, 1919-21, and 1921-25, and of German cycles in 1914-19, 1919-23, and 1923-26. More detailed is the picture of American cycles in 1914-19, 1919-21, and 1921-24. cursory examination of our measures indicates that the several war cycles bear striking resemblances to one another. In the first postwar cycles the resemblances are still striking. The second postwar cycles are decidedly less alike. Yet all have the fundamental features of peacetime cycles; some in wildly accentuated degree especially during war, while other features are toned down. As is to be expected, departures from peacetime characteristics become less notable as the wars recede into the past. A summary of these earlier effects of war and peace upon business fluctuations would certainly be interesting, and may prove highly valuable in the years before us. To bring out the special features of the war and postwar cycles more sharply, comparisons should be made with the sketch of a typical cycle suggested in the preceding paragraph.

### *Wage Rates and Prices*

Leo Wolman's studies of wage rates, combined with other information about industries, exhibit clearly the relations between wage rates per hour or per piece, the annual incomes of wage earners, and aggregate employment. These relations rule the fortunes of the millions of American families whose livings come to them in pay envelopes. They are also of the greatest consequence to the national income, of which wages and salaries make up nearly three-quarters. Business is equally concerned, because the unit prices paid for labor rank high as a factor in production costs, and because all business depends at

first or later remove upon the purchasing power of wage-earning consumers, that is, upon their annual incomes.

This is one of the economic relations that will not be rendered less fundamental by the war or by the return to peace. It is also a relation frequently misconceived. All too often people think of a rise in wage rates as assuring larger incomes and higher living standards to the recipients, just as they too often think of higher commodity prices as assuring larger profits to producers. Both inferences are true if all other things remain the same. But they prove disastrously untrue if the advance in unit wages or prices is followed by a marked reduction in employment or sales. The danger that such reductions will occur is obvious if wage rates or prices are pushed too high. What is 'too' high depends upon the relation of the rates and prices in question to other parts of the price system. Even the best fortified monopoly that has no competition in its special line must remember that at least some customers have alternatives to buying from it. Substitutes can be had for every commodity in some of its uses; machinery can be designed, if worth while, to perform part or all of most manual operations; consumption of high priced goods can be restricted. More serious still, when all price-charging parties seek to get the highest prices they can extort from buyers, production is curtailed and national income reduced. The outcome is general impoverishment, and ultimate loss to those who sought gain at the expense of others.

Here lies, as is generally recognized, one of the most difficult problems of making 'capitalism' work in a society that utilizes modern technology. For production of goods by intricate industrial equipment requires large operating units, and hence large business enterprises—though that is not the only reason for their growth. The resulting conditions of employment stimulate even larger-scale organizations among workers. The greater the fraction of the country's business in the hands of such aggregations, the less flexible does the price system

become. Negotiations over prices and wage rates between two or several great interests are carried on in elaborately organized and time-consuming conferences. They are entrusted to agents whose credit depends upon getting favorable terms for their side in a controversy—men whose attention is likely to become so centered upon the single issue of prices or wage rates that they neglect the effect of high prices and wage rates upon volume. The net effect is often loss to both parties, and their loss reacts unfavorably upon the whole economy.

How difficulties of this sort can be obviated within the framework of free enterprise is one of the issues that has registered in the public consciousness. Past efforts to break down monopolies have not given reassurance. Few are ready to surrender the advantages of large-scale production. Nor do many challenge the right of workers to combine in large unions. But many, including men of affairs and labor leaders, acknowledge, in private if not in public, the dangers to the common welfare inherent in this situation. And these dangers threaten to become graver after the war, unless we face them more intelligently and more dispassionately than we have done hitherto.

What the National Bureau can contribute toward resolving this formidable dilemma is to publish its findings concerning the relations among prices, sales, and profits; wage-rates, employment, and wage-earners' incomes. On the first head, an integration of findings by the Conferences on Price Research and Financial Research may prove highly significant; but that integration has not yet been made. One shift proposed in our program is to bring these two lines of investigation into focus upon the effects of different price policies on sales, profits, production, and national income; also the reactions of changes in national income upon sales, prices, and profits.

Meanwhile the Conference on Price Research has set up a Committee on Price Determination under the Co-chairmanship of T. O. Yntema and Joel Dean to investigate price-

making processes. The contacts they have established with industrial and commercial establishments in the Chicago area will be utilized in a field study of the manner in which price controls are applied, and of their economic consequences. Such a study, conducted by a non-governmental agency, should supplement the appraisals of price control that may be made by the federal Office of Price Administration.

On the second head, Mr. Wolman has already in hand a considerable body of materials that merit the thoughtful attention of public officials, labor leaders, and employers. What seems called for again is speeding up publication without waiting until the investigation can be completed.

### *Production and Productivity*

Pertinent to both war and postwar problems are the researches into production and productivity that Solomon Fabricant and Harold Barger are in process of finishing. This work, made possible by grants from the Maurice and Laura Falk Foundation, complements and checks estimates of national income on one side, and on another supplements and re-enforces conclusions based upon wage rates, employment, and payroll disbursements.

In *The Output of Manufacturing Industries, 1899-1937*, Mr. Fabricant demonstrated that manufacturing output has grown decidedly faster in the last forty years than was indicated by indexes of production compiled from unchanging lists of commodities that can be counted in physical units, and his work has contributed to the improvement of such indexes, notably the one compiled by the Federal Reserve Board. Mr. Barger's parallel studies of agriculture, mining and quarrying, and public utilities raise to a higher level our knowledge of the additions these branches of production severally make to real income.

As Messrs. Fabricant and Barger studied the records for

these industries, in which output was usually pushed up more by increasing productivity than by rising employment, they realized that they could not really understand the development of these segments of our economy without also learning something about certain industries into which employment has been rapidly pouring—those which produce services instead of commodities. These industries, including such diverse activities as trade, domestic service, amusement, the medical professions, engineering, and government, catering both to consumers and to business concerns, have steadily increased in size, and before the present war employed some 35 per cent of all gainfully occupied persons. The study of incomes in five professions by Simon Kuznets and Milton Friedman illuminates one portion of this field; the other parts also should be brought into the light. When production is once more carried on primarily for civilian needs, the service industries will enter prominently into the calculations of those concerned with the employment of workers released from war industries. But as yet we have only vague impressions about how much of the expected slack in employment these industries can take up. When they have finished their current studies of production and productivity, our two investigators will be well equipped to attack this question.

Meanwhile they have drawn significant conclusions regarding productivity. We often overlook the obvious fact that our average standard of living cannot rise except as we, the workers, increase average output per man of the goods we buy as consumers. If average productivity did not rise, the best we could attain would be a national income that grows only as fast as the number of producers. Besides bringing home this fundamental piece of common sense, the detailed examination of employment, output, and productivity in over a hundred branches of manufacturing exhibits an arresting relationship between output per worker and industrial growth. Those industries in

which the increase in output per worker has been rapid are usually industries in which the number of workers has risen rapidly, in which total wage disbursements have expanded vigorously, and in which the annual incomes of the employees seem to have been high. Conversely, industries that have lagged in output per worker have been usually those in which employment declined, total wage disbursements contracted, and annual incomes (though not in all instances wage rates) seem to have been low. Probably these conclusions might be restated in terms of profits realized or losses incurred, and capital invested. Thus the common interest of the nation in attaining higher efficiency in production is also, as a rule, the individual interest of its citizens, no matter what industry they are attached to. True it is that many an individual gains by getting a higher price per unit for whatever he has to sell; but those individuals have made the greatest gains on the average who have increased their output of goods that others desire, and at the same time have cut costs and prices. It is only these producers who have augmented the common welfare.

#### ECONOMIC BALANCE WITHIN THE AMERICAN ECONOMY

These complacent remarks require qualification. An industry can overstock its market, drive its selling prices below costs, bankrupt its business enterprises, and throw its whole working staff on the streets. Just as the question what wage rates or prices are 'too' high turns on their relation to other parts of the price system, so the question of what is 'overproduction' turns on the relation between output in a given industry and output in other parts of the industrial system. One of the critical points in business management is to find what rate of output is most profitable at any given time in view of the unit costs and selling prices of the products. So, too, one of the critical points in determining the prosperity or depression of a nation both from year to year and in the long run is the balance or lack of bal-

ance it maintains among the many activities that constitute its economy.

These reflections are whetted to a cutting edge by observing the fortunes and misfortunes of agriculture since the preceding war. Its checkered career may have occurred to the reader as contradicting what was said about the close association between the productivity and the prosperity of individual branches of production. In a fuller sense than is commonly realized, American farming ranks among the progressive industries. Mr. Barger shows substantial increases since 1899 in average output per man in both vegetable and animal husbandry. Yet in 1921-33 farmers suffered exceedingly hard times. And, because of the peculiar organization of farming, hard times applied pressure to get still larger output; that reduced prices further, and made times still harder. It was not until the federal government regretfully introduced the policy of restricting output, and obtained the reluctant acceptance of this policy by paying farmers not to produce, that the fortunes of American agriculture looked up.

This episode does not mean that, even in the eyes of the officials who inaugurated restriction of output, restriction is desirable except as a desperate remedy for an acute disorder. It does, however, present in the most emphatic fashion one of the difficulties characteristic of our age—a difficulty that is now complicating the effort to avoid a price inflation, and a difficulty that threatens to become chronic in postwar years.

When the producers of a nation get organized in powerful 'blocs', each seeking to retain and if possible to enlarge its share in the common product, attention is centered upon the terms of interchange. The obvious way to increase the share of any bloc is to put higher unit prices upon what it sells. The easiest way to raise prices is to reduce supply. Then the struggle over the division of the common product turns into a scramble to cut output, the end of which is less to share among the con-



testing parties, and a decline in public wellbeing. Farmers, organized in such a bloc, were enabled to adopt the tactics of block warfare, and to increase their net returns.

This purposefully over-simplified statement does not represent accurately the current state of affairs; but it does represent a possible result of one among the salient trends in economic evolution. The formation of economic blocs began in those branches of industry in which operating conditions made efficiency depend upon unified control over large enterprises. Railways were the earliest example to excite widespread concern in this country, but other public utilities followed hard on their heels, and then industries exploiting natural resources so limited that the richest properties could be readily controlled. The movement spread to branches of business in which a quasi-monopoly could be obtained by other means, for example, exclusive patents, secret agreements between nominal competitors, or great size. Partly in self-defense, partly in the hope of getting for themselves the advantages of monopolistic position, other interests imitated their example. The struggle was carried into politics. Powerful business enterprises resorted at times to meretricious propaganda and bribery to get special favors from governments, local, state, and national. Groups otherwise weak but strong at the polls by virtue of numbers brought pressure to bear upon their representatives. In consequence, the formation of blocs was promoted by the common agency for protecting public welfare, and the most extraordinary achievements in this direction have been due to its efforts. The process is self-reinforcing. Interests that cannot or will not join in the process of organizing for self-defense or aggression run the risk of being exploited on all sides.

The recital of those familiar developments takes us back to what was said in an earlier section about the declining flexibility of wage rates and prices. It is not by chance that the two ap-

proaches bring up the same issue. And this issue is so grave that we should examine it closely from both angles.

In an economy where production is carried on predominantly by relatively small units, the balance among industries is maintained or restored after an upset mainly by price adjustments. If the output of a given trade is 'too' large in relation to that of others, the prices of its products fall, profits disappear, and supply is restricted. If the output is 'too' small in relation to the general scale of operations, prices rise, profits swell, and the supply is enlarged. When prices become inflexible this mechanism ceases to work efficiently. Then readjustments among branches of industry are made mainly by changes in output. This condition aggravates fluctuations in employment, in national income, and in economic welfare. Also, as has been said, concentration upon efforts to avoid price cuts gives the changes in production a bias toward restriction.

How the necessary balance among economic activities can be maintained on a high level of operations in a system dominated by blocs, each of which strives to bend governments to its purposes, may become the crux of postwar debates. The National Bureau can raise such discussions to a higher level if it pushes forward its studies in prices, wages, production, productivity, capital formation, national income, and business cycles. Ought it attempt more than that by trying to weave its own findings, together with other materials, into an analysis of the secular trend toward organization in blocs, the role played by different factors (including government) in that process, its effects upon the balance of the economy, devices for maintaining balance that have been substituted for price changes, and an exploration of alternatives to present policies, so far as policies can be made out and alternatives imagined?

Exceedingly ambitious, such an undertaking would require a rare combination of insight with judgment, as well as much industry in gathering materials. It might be difficult under

the conditions we now face to keep personnel qualified to direct the project, to do the spade work, and to devise analytic methods that would wring significant conclusions from the diverse data and speculations to be canvassed. No doubt the National Bureau would be better equipped for the task after it had carried its current investigations further, and when it could be sure of enlisting and keeping a larger staff. But the likelihood that the country may have to grasp at some hasty solution soon after the war renders it incumbent upon us to consider whether we should not now embark upon this hazardous venture with the inadequate means at our command.

#### ECONOMIC BALANCE IN THE WORLD ECONOMY

A similar and yet more difficult problem is presented by the economic relations of the United States to other countries. The effects upon our domestic activities produced by the growth of blocs jockeying for advantage over one another are roughly paralleled by the effects produced in the family of nations by the rise of 'autarchies'.

Our country's share in these developments has been widely influential, not because of the extremes to which it has carried economic isolation, but because of its great wealth. By tradition reaching back to the Civil War if not beyond, we were committed to the 'protection of home industries'. The effects of high import duties upon our economic development were a perennial subject of academic debate and of political struggle. Despite the opposition of critics able and numerous, tariff rates rose decade by decade. We entered the 'First World War' a leading exponent of 'protection', and, a majority of Americans thought, the brightest example of its merits.

Whatever view is taken of the net gains or losses to the United States from its tariff policy up to 1917, the issue entered a new phase as the country shifted from its old position as a 'debtor nation' to its new position as the world's leading

'creditor nation'. Understanding of how this momentous shift bore upon the tariff issue gained ground too slowly to bring a thorough reconsideration of our policy. The country tried to collect sums due it on trade balances and on war accounts; at the same time it built higher its barriers against payment in goods.

This policy encouraged, and in part forced, other countries to adopt measures more extreme. The game of commercial strategy as played on the international stage in the 1920's, and still more in the 1930's, led to a drastic shrinkage in the world marketing of goods, a consequent drop in the production of wealth, and mutual frustration. It is easy to see that some countries suffered more than others from this process, and that some industries in the United States suffered more than others. Off-hand it is hard to see what industry or what country was genuinely benefited.

When peace comes again to the world, what benefits it brings to the nations will be determined in large measure by their readiness to cooperate with one another in promoting economic welfare. The terms of cooperation will depend upon engagements into which governments enter during the struggle, as well as upon the military settlement. While there is no forecasting such matters, it is desirable to consider what line of economic policy toward other nations the United States should adopt if conditions enable it to choose freely. If a little of the clarity that comes with hindsight can be imparted to our foresight in such matters, there may be fewer future regrets than intelligent Americans now feel as they look back upon the era of reconstruction that began in 1919.

Thus the need is clear for searching and impartial inquiry into the consequences of the economic policies followed by leading nations toward one another from 1919 to 1940. But the difficulties of such an undertaking, even if it were restricted to

the United States, are formidable indeed. No economic theme has a more controversial history, and the clash of opposing interests is as fierce now as ever it was. In no field is it harder to judge the relative importance of the many factors involved. The quantity and variety of materials that should be canvassed is very great. Part of them can be found only in governmental bureaus; yet any governmental inquiry would be suspected of partisan bias at home and of national bias abroad. Only a thorough study on a factual basis would carry conviction; an adequate staff of the high qualifications required would be especially hard to recruit and hold under current conditions; the cost in money would be high. Yet the need is there and some organization should promptly set about filling it; for the job will require several years, and the results should be available when the war ends, or soon thereafter.

The National Bureau has not proper qualifications for this undertaking. We have had a little experience in dealing with international questions, but not much. We do not offer advice upon matters of policy, aside from technical matters concerning statistical data. Though this limitation is self-imposed, we think it should be maintained in the interest of our future usefulness to the public. Our financial resources do not suffice for large additional commitments, and we must live up to the obligations we have already assumed. But in reviewing current needs for economic research, we should not omit the problem of international trade and finance. It is our hope that some body better qualified than the National Bureau will assume this responsibility. If it does, we shall gladly put at its disposal our not inconsiderable collection of international data, and aid it in any other way that we can. If no other agency is willing and able to take the lead, it will become the duty of the National Bureau to consider whether, despite all difficulties, it should march into the breach.

## *Financial Research*

Last autumn, the directors of our Financial Research Program, in consultation with representatives of the Association of Reserve City Bankers, recast their plans to bear more directly upon pressing current questions. One general result was to suggest a flexible procedure that will enable our rather elaborate organization to effect future changes of program more quickly.

Besides issuing promptly the general summary of its thorough studies of consumer installment financing, completing the investigation of business financing, and putting the great collection of data gathered by the Corporate Bond Project in form for practical uses, the Committee on Research in Finance has been mapping territory that needs to be explored. It has approved the following areas of work: The impact of the war (1) on bank lending activities, (2) on the financial structure of business enterprises, and (3) on bank investment portfolios; (4) the place of equity financing in war and postwar capital problems; (5) private international investment after the war; (6) selective credit control in current and postwar central banking policy. In view of the wealth of materials assembled during the past two years in connection with the Business Financing Project, the Committee recommends that attention be focused next upon the first two areas.

Those in touch with recent developments realize that the country's financial machinery is an indispensable part of our equipment for mobilizing its economic resources, and for effecting the turnover from production for peace to production for war, and back again to peace. The banks and other financial agencies have to do their share in this great undertaking when nearly all factors involved in their calculations are shifting from day to day. Requirements, burdens, and risks are influenced by war contracts for finished goods, war investments in plant, tax laws, governmental borrowings, monetary policies, attempts to control prices, difficulties in obtaining raw materials

from foreign or domestic sources, priorities, the uncertainties of foreign exchange rates, and countless other matters. The prospect of postwar days is even fuller of uncertainties. If we continue the mixture of private enterprise and governmental intervention when peace returns, the financial sector of our business system will have a heavy load indeed put upon it, and will need more than ever all the insight that research into current conditions can add to the acumen and judgment acquired in practice. Thus there is a compelling argument for continuing as best we can the financial research part of our program during the war.

### *Fiscal Research*

Even more obvious is the justification for current study of fiscal problems. Never has the country assumed such a tax load as is now contemplated, never have its expenditures approximated the present estimates, and never has it piled up public debt at such a rate. All the issues of public finance, as they affect private citizens, business enterprises, and the federal government have risen to a higher order of importance, and the reactions of wise or unwise policies upon the national welfare have become more drastic. The field offers better opportunities for research than many branches of economics, and financial officials are eager to use genuine contributions to knowledge.

Certain parts of the comparison between definitions of business income by taxing authorities and definitions for other purposes, made by the Conference on Research in Fiscal Policy, have already been furnished to the Treasury and the Securities Exchange Commission. Despite delays caused by withdrawals of staff into governmental service, the work is well advanced and should be finished by spring.

Early last year the Carnegie Corporation granted funds that enabled the Conference to undertake a survey of defense financing, which circumstances turned into a Study of Defense

and War Financing. By enlisting a staff of experts, the directing committee (W. L. Crum, John Fennelly, and Lawrence Seltzer) were able to get a preliminary draft ready for critical discussion by a group of some thirty specialists and Directors of the National Bureau on February 7 and 8.

This substantial manuscript points out that the basic requirements for victory are trained men in large numbers and enormous quantities of equipment. To obtain the equipment in adequate amount, the nation must depend mainly upon increasing its gross output by fuller use of its labor and capital, and upon diverting to war uses a substantial part of the energy normally put into supplying consumers. In a money economy these changes take on prevalingly a monetary guise. The government must pay the men it drafts and employs; it must buy the supplies it requires, or pay men to make them in its own arsenals and new plants that it may acquire or build. But there is grave danger that the huge governmental spending incident to this program will defeat the second essential shift in its activities—namely, the diversion of production from civilian goods to war goods. For these expenditures tend to increase the disbursements of wages and dividends, the demand for consumers' goods, their prices, and so the energy put into supplying a highly profitable demand. To avert this consequence is logically quite as much an aim of current fiscal policy as securing enough money from taxes and loans to pay for the war.

Consideration of this problem calls for study first of the way in which the war will change the volume and distribution of consumers' incomes, second of various direct controls over production, and third of the way in which taxes and loans of various kinds affect consumers' expenditures and react upon prices.

Any systematic treatment by competent hands of these fundamental issues in war financing should be of great value to the legislators and administrators who must soon come to a



series of decisions upon federal policy. Their time is short and they are burdened with other responsibilities. In view of their needs, the Directors of the National Bureau voted at the annual meeting that the manuscript of the Study of Defense and War Financing may be put at the disposal of public men who care to see it while still in process, and before it has been reviewed in our standard fashion. What form the report will finally assume, and what disposition will be made of it are questions for the months to come.

### *National Income*

Though estimates of national income are now being widely used in Washington, both as guides to over-all planning and in numberless detailed operations, and though these practical uses are revealing the limitations as well as values of the data, those best acquainted with the field doubt that any elaborate new ventures should be started during the war. This doubt affects the planning of our Conference on Research in Income and Wealth, which in recent years has devoted much of its energy to stimulating the collection and analysis of data upon the distribution of income by size, particularly in the lower brackets. As noted in Part Two, gratifying progress has been made, but much remains to be done before a satisfactory series of estimates covering the whole range of individual and family incomes can be prepared in such form that a public agency can undertake the preparation of comparable figures for future years.

The second function of the Income Conference, that of providing a forum and stimulus for technical discussions, should be continued if possible. The Conference has proved its value to the country beyond question, and promises to render further services. We cannot be sure, however, that the annual meetings will not be interrupted, for many members may be too busy with war work to prepare papers.

Four members of the National Bureau's Income Unit are already in governmental employ. This shifting of staff will, of course, restrict our activity in the near future, and will also influence the direction of what work we can attempt. Presumably what had been the chief item in our pre-war program—completing the second volume of *Commodity Flow and Capital Formation*—must yield to more pressing tasks.

What we should attempt is still undetermined, but three suggestions seem promising at present. (1) A study of the country's potential capacity for production that can be diverted to military uses. This venture would supplement Mr. Kuznets' *Occasional Paper* referred to above. It would involve estimating the total output that can be achieved by the country during the war years, and the minimum sums that must be devoted to civilian consumption and non-war capital requirements. Doubtless one or more governmental agencies have been putting together figures of this sort, but we think that our staff can make a contribution of substantial value. (2) A study of the changes in the volume and composition of the national income in 1938-41, and a comparison of these changes with those occurring in 1914-18. (3) Changes in the national income and its components after the First World War. These three studies are not conceived as elaborate investigations, but as assemblies and analyses of easily available data, summed up in concise reports that can be prepared rather quickly.

#### THE PARAMOUNT DUTY OF THE DAY

All the foregoing is predicated on the assumption that the National Bureau can best serve the nation's interests by continuing to work, with such of its staff as are not taken into the armed forces or governmental offices, upon problems that are of immediate urgency or will become pressing when peace returns. But is this assumption valid? The studies reviewed above would not be of much value to Americans if they lost

their power to shape their own institutions, to carry on their lives as they see fit. They must win the war before they can essay the task of building a better world for themselves and other peoples. That is the peremptory call that all individuals and all organizations should answer to the best of their ability.

If it develops that the National Bureau can render important war service, the Executive Committee of the Directors will have to consider what parts of the program they have approved and would like to see executed shall be dropped. That no such duty has yet been laid upon us may not mean that none will be. No group not in the thick of war planning and intimately acquainted with its rapidly shifting exigencies can be a good judge of current requirements. But members of our Board and staff now in Washington, as well as numerous officials who have gained acquaintance with our resources as members of our Conferences or as readers of our publications, may at any time ask the National Bureau to undertake some task it is fitted to perform. So far, the requests that have been made are for the services of individuals working with us. How many of our staff and collaborators have already given up their researches in whole or in part for governmental service is shown in the third section. It is the more likely that future calls upon us will be of this sort because of the obvious difficulties of using an outside agency to good advantage in efforts that must be closely coordinated and that demand quick decisions.

It is also pointed out above that the federal government itself is taking thought of probable postwar conditions and devoting part of its personnel to devising future plans. This fact is reassuring, not only as a sign of prudent foresight, but also as an indication that not every shred of the country's intelligence must be spent upon today's problem. The situation would be desperate indeed if no attention could be paid to tomorrow's needs. If the responsible officials who know most about the hard days ahead feel justified in continuing their forward planning,

a private research agency should perform the tasks for which it was created until it is assigned war duties, or until its whole staff has been drawn into war work.

This conclusion was reached by the Executive Committee of the Board at its meeting on the 16th of last December. The function of economic research in general and of the National Bureau in particular was discussed at some length, and the consensus of opinion was formally recorded as follows:

1) Economic research is a function equally important in war and in peace.

2) In so far as possible, the National Bureau should be kept intact as a going concern.

3) Its program should be pushed energetically, because much of it bears directly upon war problems, and all parts will contribute to the understanding and handling of problems of economic re-adjustment after the war.

4) Whenever the National Bureau can aid in the emergency by adjusting or expediting its work, it should make every effort to do so.

5) It should help and encourage members of its staffs to participate in the public services wherever and whenever it is clear that an opportunity exists for constructive contributions.

**WESLEY C. MITCHELL**

**DIRECTOR OF RESEARCH**

PART TWO

A Record of 1941 and  
Plans for 1942