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A CLAUSE in the National Bureau's by-laws provides that the Executive Committee, "under the general direction of the Board, . . . shall select such subjects for investigation as may be most pertinent to the economic, social, and industrial needs of the times."

This rule makes it incumbent upon us at intervals to take stock of what we have done and to consider whether, in using the resources with which we have been entrusted, we are paying proper attention to changing needs. The more rapidly and the more drastically the times change, the more frequent and searching should these self-examinations be. This war, like World War I, has intensified the demand for economic knowledge; the peace we expect will bring a new shift in needs, just as the 1914-18 War did, not merely a return to the prewar status.

In January the National Bureau completed its twenty-fourth year. A review of its program should start with the economics on which our founders were brought up and which they applied to the problems of their day. Their decision to organize for economic research, the kind of organization they formed, and the type of inquiries they started grew out of the deficiencies they had found in their economic equipment for aiding in the mobilization of resources for war.

ECONOMICS AND THE NEEDS OF PEACE

In contrast to mercantilism, 'the policy of power', classical economics was an analysis of the ordinary business of life in communities at peace. It took for granted that the end of endeavor was to meet the wants of consumers. These wants were supplied by a huge and intricate system of voluntary cooperation among men, each of whom decided for himself how he should try to make a money income and what to do with it. The system involved a vast deal of planning day by day; but this planning was done in each household and business enterprise, by people who were supposed to know what they wanted and to look out for their own interests.

Economists thought of this system as an unplanned historical growth. Their central problem was how millions of people manage to promote their common welfare without an over-all plan, though everyone aims at his private advantage, not at public welfare. Economists found the solution in the role played by prices. The prices individuals are ready to pay for consumers' goods coalesce into market demand schedules. These schedules are bids for goods, which anyone who likes can accept if he is able to produce on the market's terms, which means to sell as cheaply as his competitors. Business enterprisers buy the services of laborers, land, and capital; in turn their disbursements of wages, rent, and interest, together with their profits, constitute the incomes that enable consumers to buy. When competition is free, the management of production gets into the hands of the most efficient enterprisers; maladjustments of supply to demand are corrected more or less promptly; in equilibrium every worker, property owner, and enterpriser receives an income representing society's money valuation of his marginal contribution to the total product; by spending his income as he likes, everyone helps to direct production toward the goods people want; responsibility for getting his own living spurs everyone to efficiency as a moneymaker. In this scheme of thought, an over-all plan drawn up and imposed by government is not merely superfluous, but positively harmful because individuals know more than any official can about what they want, and satisfying consumers' wants is the ultimate economic aim.

Individual planning was accepted as the controlling factor in the whole system of economic activities. The theory offered was less an account of how people behave than an analysis of how it is to their economic interest to behave. The earlier classicists were realistic about what they considered the shortsighted conduct of the working classes in marrying too early and begetting too many children; but the 'pure theory' of later generations paid little attention to this alleged lapse from rationality, and represented conduct as a struggle between desires to consume and disinclinations to labor or to wait. These desires and disinclinations were treated as the real forces controlling economic behavior. Economists had little information about actual demand and supply schedules, which they thought they could do without. To demonstrate the 'principles' of economics, a theorist used imaginary schedules to which he could give a variety of forms, each of which posed an interesting problem that could be solved by showing what self-interest would lead people to do under the assumed conditions.

Such economic theorizing was confined mainly to 'qualitative analysis'. Individuals, to be sure, had to have quantitative data about wages, prices, costs, and the like; but only data that bore on their private concerns. Into these infinite and ever changing details a theorist did not enter. He wished to generalize about economic behavior at large, and did so basically in terms of the 'real forces' that controlled it. Since individuals did not aim at maximizing the national income, they could get on well enough without knowing how large it was. So also could the economist who explained the principles on which individuals acted. Thus, for example, he sought to show the 'laws' or principles according to which the national income is distributed among wage earners, landlords, capitalists, and entrepreneurs, without inquiring how much there is to divide at any time and place, or what percentage goes to each of the four groups, or how many people there are in each group, or how much income anyone gets. Similarly, the theorist expounded the principles according to which everyone distributes his expenditures among many kinds of goods, without inquiring what percentage he spends on food, clothing, shelter, and the amenities of life; how these percentages vary with income, or how much of food, clothing, shelter, and the amenities anyone is able to obtain.

Much more quantitative work on economic problems was done before the first World War than is often remembered, but little was incorporated into economic theory. Economists dealing with poor relief, labor conditions, agriculture, foreign trade, banking, and so on accumulated factual information in impressive detail about their chosen themes, and many were ardent advocates of institutional reforms. But the relation of these special studies and proposals to the central body of principles was (and still is) loose. Le Play's group, the German historical school, and their allies in other countries were realistically inclined; but their writings did not give such clear insight into the principles of free enterprise as did orthodox theory—and that was the matter of keenest economic interest in the democratic nations.

In peacetime the economist was typically an onlooker, not a planner or operator of the activities he tried to explain. Only a few of the largest business enterprises employed economists, and government was supposed to intervene in economic activities only to keep the system of private enterprise running smoothly. Economists might regard themselves as good advisers when things went wrong; but that rating was not widely endorsed by the public, because economists differed so seriously about what ought to be done in a practical way. They were found on both sides of most questions of the day—the monetary standard, banking organization, railway supervision, control over trusts, taxation, social legislation, trade unions, and what not. For the most part, professional economists made their livings by teaching. There was not much demand for them in other lines. Theirs was an academic profession in peacetime.

World War I called these student bystanders into action on an unprecedented scale because it required the mobilization of all resources under governmental direction. The government drafted men into the armed services, it decided what supplies and equipment should be produced, it apportioned raw materials and consumer goods, it fixed many prices and wages, it decided what fractions of their incomes individuals and business enterprises must contribute as taxes, it supervised the investment of capital and diverted all the savings it could into war bonds. In short, a war economy is an economy in which individual planning is supplemented by over-all planning, with the proviso that where the two sets of plans conflict, the central plan shall prevail. Over-all planning calls for a huge staff of experts possessed of the most diverse skills—military, naval, and aeronautical officers, engineers and designers of all sorts, business organizers, dieticians and public health specialists, lawyers, accountants, public relations counselors, physicians, surgeons, dentists, statisticians, economists, and many others.

Economists are wanted, less because they possess detailed knowledge about many of the thousand and one jobs to be performed than because they are trained to think of the economy as a whole—of 'the one in the many and the many in the one', to use Marshall's favorite phrase. The adjustment of each activity to the grand complex of all activities that economists picture in peacetime as effected through the mechanism of prices must be maintained in wartime largely by administrative decisions. The more thorough the mobilization of resources, the more difficult and the more imperative becomes this task. The military staff planning to raise a huge army must balance their requirements against the demands of the industries that support both the armed forces and the civilian population. The agencies regulating wages must watch the cost of living, which depends on the prices of staples. Those administering prices must foresee relations to costs of production, consumer requirements and purchasing power, availability of raw materials, possibilities of substituting one good for another, and so on almost without end. The tax authorities must consider individual incomes of different types, business profits, and the part taxes play in checking price inflation. Such interrelations ramify over the whole field. Every government planner eager to fulfill his own responsibilities runs the risk of hampering the plans of his colleagues, and the equal risk that the demands of these colleagues will hamper his own job. Hence every agency requires counsellors familiar with the interrelations among economic factors. Never is the demand for the services of economists so great as in war. And this demand arises from pressing needs of the times as they impinge upon practical men carrying heavy responsibilities, not from a disposition to magnify the importance of economics.

But the economic knowledge most wanted in wartime turns out to be of a somewhat different sort than that chiefly cultivated in peace. Economists who helped in the mobilization of World War I found that they needed knowledge about *the whole economy* of the sort a business executive possesses about his industry—information on quantities as well as qualities, knowledge tested for conformity to fact and adaptable to changing conditions.

Definite quantitative information was called for about the supplies and the uses of many commodities, the number of men qualified to do work of diverse kinds, the amount of the national income and its distribution—not only by type of income but also by industrial source, geographical area, kind of goods turned out, and size of income received. Many of the economists in the numerous war agencies of 1917-18 spent most of their time collecting what information they could about such matters, and making hazardous estimates of quantities that were unknown. The plague of questionnaires which aroused so many complaints was a belated effort to get some of the quantitative data wanted as a basis for planning. Far too often officials had to proceed on the basis of guesswork.

Effect of World War I on the Development of Economics

It is not surprising that the first World War gave a marked impetus to search for the economic knowledge that had been lacking. Nowhere was this impetus more effective than in the United States. Many of the efforts to gather statistics, hastily organized to meet war exigencies, were continued and expanded by permanent agencies during the following years of peace. The greater abundance of data stimulated efforts to discover what they really meant. The methods of statistical inference improved rapidly at the hands of men with mathematical training. Studies based upon statistical observations ordered in time are confronted by the problems of change, and must use some form of time-series analysis. The investigations begun before the war into secular, cyclical, seasonal, and random changes in economic activities were pushed forward vigorously—in some directions recklessly, as the misadventures of 'business forecasting' bear witness. And this type of economic inquiry is realistic. For the process of setting up imaginary conditions and reasoning about how men would act if they knew and pursued their economic interests, it substitutes mass observations of economic activities. Even speculative theorizing often took on a more realistic coloring. The theory of prices, which had been confined mainly to conditions of free competition, was extended to cover a variety of quasi-monopolistic conditions. Efforts were made to integrate the theory of money and of business cycles with the general body of economic principles.

Of course, this attempt to develop economics as an objective science of human behavior through the use of mass observations labored under a material handicap. Speculating about what it is to the interest of men to do under imagined conditions can be carried on by a lonely thinker in his closet. He requires no staff of assistants, and no financial aid beyond a living salary. In contrast, the investigator who tries to utilize observations is in the position of an experimental scientist. He must have a laboratory, specialized equipment, and assistants. Lonely thinkers can and do make contributions in this field; but they must confine themselves to problems that require relatively few and easily accessible data. Larger undertakings call for teamwork. And the largest undertakings are often the most significant; for example, studies of national income and business cycles.

It was therefore natural that the impetus given by World War I to realistic inquiry into economics should lead to the founding of institutes for economic research, each with its staff of investigators and assistants. The National Bureau was one of several. It was organized the year after the war closed and incorporated in January 1920 by a group of economists, most of whom had shared in the wartime mobilization and learned from hard experience how inadequate was their equipment for dealing with the problems put up to them. They wanted to increase knowledge of the sort the war had demanded, for they believed that it would be valuable also in peace. Thus the National Bureau was, in the language of the day, a World War I baby, posthumously born.

The National Bureau between Two Wars

The first topic selected by the National Bureau as pertinent to the needs of postwar times was national income. The selection was fortunate in that national income provided a framework into which all our subsequent investigations could be fitted.

While our first reports on national income in 1909-19 marked a considerable advance beyond earlier investigations, several large items were based upon very inadequate data, the concepts and methods were not fully thought out, and the estimates covered a period so brief and so exceptional that they did not serve certain important purposes. Hence we had good reason for continuing and trying to improve upon the first venture. In 1922 and 1925 Oswald W. Knauth and Maurice Leven allocated the national totals to states; in 1930 W. I. King revised and extended his earlier estimates; in 1937 Simon Kuznets dealt with capital formation and the next year Solomon Fabricant completed his study of capital consumption. In connection with this work Kuznets analyzed the flow of commodities to consumers; Harold Barger provided quarterly estimates of outgo and income in 1921-38; Milton Friedman and Kuznets broke new ground in their study of *Incomes from Independent Professional Practice.*

By organizing the Conference on Research in Income and Wealth we enlisted the cooperation of the most active specialists connected with other agencies to analyze income concepts, stimulate the collection of fuller data, and criticize methods and results. The six volumes published so far in our Studies in Income and Wealth contain technical papers of value to all students in the field. Our program was capped in 1941 by the publication of Kuznets' two volumes on *National Income and its Composition*. Meanwhile, much to our satisfaction, the federal government had taken over the laborious task of making annual and later quarterly estimates of national income, supplemented by monthly estimates of payments to individuals, borrowing our experts to get their work started.

We now have a continuous series of estimates covering twenty years, with partial extensions back to the 1880's, with breakdowns by industrial source, type of income, and type of final product, supplemented by estimates of individual and business savings or dissavings, and of the formation and consumption of capital. But we do not think of work on national income as completed. Estimates of the distribution of income by size, of great social importance, are still in a most unsatisfactory condition. International comparisons are clouded by differences in concepts. Close as our connections with the income unit of the Department of Commerce have been, we think some well-staffed independent agency should follow the official procedures critically, as Kuznets is doing in two papers on national product in wartime in which he deals with the inflationary elements in the totals for recent years and discusses the difficulties encountered when one applies peacetime concepts to national product during wars. Just what share the National Bureau should take in further explorations is a question we must face in the near future.

Our studies of production and productivity have an obvious connection with national income classified by industrial origin. Here belong Arthur F. Burns' *Production Trends in the United States since 1870*, and Harry Jerome's penetrating analysis of *Mechanization in Industry*, both published in 1934; Charles A. Bliss' cross-section view of *The Structure of Manufacturing Production* (1939); Fabricant's *The Output of Manufacturing Industries* (1940) and *Employment in Manufacturing, 1899-1939*, *An Analysis of Its Relation to the Volume of Production* (1942); Barger and Landsberg's *American Agriculture—A Study of Output, Employment and Productivity* (1943); and Barger and Schurr's companion piece on *The Mining Industries*. Considerable progress has been made upon monographs dealing with production and productivity in transportation and other public utilities. We hope that this series of studies, made possible by grants from the Maurice and Laura Falk Foundation, can be rounded out by a report on the major service industries, and the broad conclusions from the whole survey summarized in a report for which we have tentative plans.

The breakdown of national income estimates by type has been followed by studies of wages, rent, interest, and profits.

In 1923 King wrote *Employment, Hours, and Earnings, 1920-22*. Leo Wolman surveyed changes in trade union membership in 1924 and 1936, and is bringing his figures up to date in an *Occasional Paper*. He contributed chapters on Consumption and the Standard of Living and on Labor to *Recent Economic Changes* (1929). But most of Wolman's energy has been devoted to a history of wages in the United States that promises to be one of our major contributions. Another aspect of labor supply and income is treated in our three volumes on migration: Jerome's *Migration and Business Cycles* (1926); Imre Ferenczi's collection of international statistics of migration (1929), and the companion volume of *Interpretations* edited by Walter F. Willcox (1931).

Rents of houses and apartments were treated in David L. Wickens' *Residential Real Estate* (1941); interest rates in Frederick R. Macaulay's highly original volume: *Some Theoretical Problems suggested by Movements of Interest Rates, Bond Yields, and Stock Prices* (1938). The comprehensive Corporate Bond Project, carried out with the help of several governmental and private agencies, has provided a wealth of data never before available to investigators, and should yield highly significant results when they are fully analyzed. David Durand's *Technical Paper* on Basic Yields of Corporate Bonds, 1900-1942 (June 1942) is the first fruit of this undertaking. W. Braddock Hickman has in preparation an exploratory analysis of the pattern of interest rates by term to maturity, and also a paper on the effects of the wartime 'freezing' of the interest rate pattern. While his withdrawal to enter the armed forces has delayed the completion of these studies, we hope that he will return to us after the war.

Of profits we have made two investigations: Ralph C. Epstein's *Industrial Profits in the United States* (1934), and W. A. Paton's *Corporate Profits as shown by Audit Reports* (1935). More recently, the Program of Research in Finance has collected the largest known samples of the balance sheets and income accounts of business enterprises, big and little. Their exploitation has been retarded by the war, but we plan to resume our analysis as soon as possible.

National income estimators deal with prices as much as with physical output. Their totals are sums of products obtained in theory, and largely in practice, by multiplying units of output by unit prices. Thus our original venture incited us to explore the system of prices.

Our cultivation of this field began with the studies of Frederick C. Mills that led up to his *Behavior of Prices* (1927) and *Prices in Recession and Recovery* (1936). During the last three years, Mills has been concentrating on the cyclical behavior of prices. Under his leadership was organized the Conference on Price Research, which has brought together the country's leading specialists and done much to stimulate inquiry into price problems. Among the direct results of the Conference have been detailed reports on prices in the bituminous coal, textile, steel, and petroleum industries; also Joel Dean's experimental paper, The Relation of Cost to Output for a Leather Belt Shop (1941), and *Cost Behavior and Price Policy* by the Committee on Price Determination (1943).

The functioning of the whole economic system, and therefore national income, depends also on financial relationships and processes.

Our Program of Research in Finance, which developed out of the Exploratory Committee on Financial Research appointed in 1936, began by investigating consumer instalment financing, the various agencies that have grown up in this rapidly expanding business, the amount of credit extended by them, the risks they encounter, their operating experience, and the relations of instalment credit to business cycles. The ten brief monographs published since 1940 provide a systematic survey of the field and proved useful to war agencies when a drastic restricting of instalment credit seemed necessary. Again we had the satisfaction of finding that the Department of Commerce and the Board of Governors of the Federal Reserve System would add to their current reporting service data of the kind we had helped in assembling.

Turning from consumer to business financing, the Program has inquired into recent innovations. Neil H. Jacoby and Raymond J. Saulnier collaborated on *Term Lending to Business, Accounts Receivable Financing, Financing Inventory on Field-Warehouse Receipts,* and *Instalment Financing of Income-Producing Equipment.* Charles L. Merwin studied the financing of small and A. R. Koch of large corporations during the interwar period, and Pearson Hunt and Koch the financial requirements of department stores. A study of the pattern of business financial structure, by Walter A. Chudson, is in press, and another by Sidney S. Alexander, dealing with changes in the financial structure of business since the turn of the century, is in preparation. Jacoby and Saulnier are now weaving the various strands of the whole investigation into a report showing how the emerging problems of banking are related to longer-term tendencies in the financing of enterprise.

No one unfamiliar with the varieties of financial practice and accounting methods can realize the difficulties that have been surmounted in collecting and analyzing the data underlying these reports, or how much the investigators have been aided by the Committee on Research in Finance, which brings a wide range of experience to the planning of the undertakings and the critical reviewing of first drafts.

That public as well as private finance influences the national income everyone realizes in these years of enormous governmental expenditures, heavy taxation, and huge public debts.

The Conference on Research in Fiscal Policy, organized in 1937 under the chairmanship of W. Leonard Crum, chose as its task "a comprehensive investigation of the economic effects of fiscal policy—broadly defined to include taxation, debt, and expenditures of federal, state, and local governments—upon production, savings, consumption, national income and wealth, and related matters". Its projected report on the Relation of Taxable Income and Income as Defined for Business Purposes has been delayed by loss of personnel not replaceable under war conditions. Meanwhile, the chairman, in collaboration with John F. Fennelly and Lawrence H. Seltzer, wrote *Fiscal Planning for Total War* (Sept. 1942), which was welcomed by some of the authorities responsible for shaping fiscal policy. We have hopes that Treatment of Capital Gains and Losses in Taxation by Lawrence H. Seltzer, M. Slade Kendrick, and Selma Goldsmith can be completed this year. Crum is now putting all his time not commandeered by imperative duties into a critical survey of the fiscal problems of reconstruction and peace.

The secular growth of national income, together with its alternating expansions and contractions, suggest investigation of the leading types of change to which economic activities are subject.

One of our earliest reports, *Business Cycles and Unemployment* (1923), was prepared for a subcommittee of President Harding's Conference on Unemployment. Later we made several studies of relief measures, of which the most notable were King's *Trends in Philanthropy* (1928) and two reports on public works as a means of stemming cyclical contractions, one by Wolman in 1930, the other by Arthur D. Gayer in 1935.

Our systematic research in business cycles started in the 1920's. Its earliest fruits were *Business Annals* by Willard L. Thorp (1926), and *Business Cycles: The Problem and Its Setting* by Wesley C. Mitchell (1927). The latter outlined a program of collecting time series representing many economic activities in several countries, and of analyzing their cyclical behavior on a uniform plan. That large undertaking is still in process. Some of the findings it yielded were utilized by John Maurice Clark in *Strategic Factors in Business Cycles* (1934), and in half a dozen brief reports published in our *Bulletins* and *Occasional Papers*. A manuscript by Burns and Mitchell describing and evaluating our methods of measuring cyclical behavior will be sent to press early in 1944.

Meanwhile we have been experimenting with ways of putting together our measures of different activities to see what picture they give of business cycles; but so much remains to be done that even a preliminary sketch of the final outcome of this long investigation can hardly be issued for a couple of years. Before then we hope that some of our projected monographs on the cyclical behavior of various factors in business will appear. Gottfried Haberler's *Consumer Instalment Credit and Economic Fluctuations,* prepared for the Program of Research in Finance, provides valuable information on one of these factors. Moses Abramovitz's manuscript on manufacturers' inventories is in an advanced stage; chapters of Thor Hultgren's volume on railroading have been published as *Occasional Papers 13* and *15;* Mills has made progress on prices, Burns on construction, Wolman on wages, Ruth P. Mack on the production and distribution of consumer goods, and Oskar Morgenstern on international financial relations. Several other monographs have been interrupted by the war.

While the business cycle program has been following its deliberate course, we have given some attention to other types of economic change. In 1933 Kuznets completed *Seasonal Variations in Industry and Trade;* in 1934 Burns followed with *Production Trends in the United States since 1870.* Secular shifts are brought out in our studies of production and productivity, as well as in the backward extension of our national income estimates. The current studies by Alexander, Jacoby, and Saulnier for the Program of Research in Finance are adding to our knowledge of structural changes in business financing.

One of the major tasks of research, as the National Bureau staff sees the field, is to coordinate what is known about secular trends, 'long cycles', structural changes, business cycles, random perturbations, and perhaps even seasonal variations, in an analytical study of the growth of the American economy. But that is an ambitious undertaking for which we are not yet ready to draw specifications.

Finally, the National Bureau has made two comprehensive surveys of the country's economic organization and the relations among its parts. The first was *Recent Economic Changes,* written by numerous collaborators for a committee appointed by Herbert Hoover when Secretary of Commerce. The second was the more closely knit survey by Mills, *Economic Tendencies in the United States* (1932).

Thus all the National Bureau's researches have been related to its initial undertaking. They have been studies of national income classified on different bases, or of single types of income, or of production and prices, or of the financial processes involved in producing and distributing income, or of fiscal factors affecting income, or of changes to which national income and its components are subject, or general surveys of the economy which produces and consumes income.

Some scheme of integrating researches is requisite to orderly thinking and the growth of knowledge. Numerous schemes are made possible by the manifold interrelations that tie all economic activities to one another. A series of researches that started with production, or employment, or prices, or the financial organization, or fiscal problems, or secular growth, or business cycles, or any other major branch or aspect of economic activity, would, if pressed vigorously, lead to all other branches and aspects. But it is doubtful that any other plan of organization would have provided so simple and clear a framework for our program as the one we have used.

A framework that shows the relations of different researches to national income reveals also the relation of one investigation to others. To give a few examples of the ways in which our inquiries tie into one another: Kuznets uses the chronology developed by the business cycle unit in analyzing year to year fluctuations in national income; in turn, his estimates of this income and its components are grist for our business cycle mill. Fabricant's studies of capital consumption feed directly into Kuznets' hopper. Their joint product leads to and is illuminated by studies of productivity. The latter aid in interpreting Wolman's findings concerning wage rates, employment, and earnings. Crum, Seltzer, and Fennelly organized their *Fiscal Planning for Total War* around an analysis of the national income and its components. Our 'bond project' provides materials of high value for the study of one type of income, of secular and cyclical movements, and of certain changes in financial practice. Mills' work on prices and Wolman's on wage rates make them invaluable members of the business cycle unit. All our inquiries stand to profit by what the Program of Financial Research learns from its collection of business balance sheets and income accounts, while the interpretation of these results will be facilitated by using what we have learned from other sources about output, productivity, prices of commodities and securities, interest rates, consumer purchasing power, and business conditions.

Thus, results of the kind we have been getting facilitate the process of learning more. Cumulative growth has long been recognized as a characteristic of empirical science. Working in the economic field, we have had our taste of an old and gratifying experience. A continuation by numerous agencies of such researches will lay an ever firmer foundation of tested knowledge concerning our economic organization and its operations that should enable the nation to conduct its affairs more successfully in the future. It should help also to further a type of economic theory that can be combined with or contrasted to the traditional analysis of what it is to a man's interest to do, and that will deal more directly with actual behavior.

It would not be prudent to expect rapid realization of these high hopes. Empirical research is like experimentation—the process is costly and the results uncertain. It requires as much exact thinking as does speculation, and the handling of vastly more observations. Its progress depends on the increase and improvement of statistical data—a social process that investigators can influence but not control.

These obstacles put a high premium upon skillful long range planning of new ventures by numerous research groups cooperating with one another. Each planning group should be large enough to include men with diverse interests and skills. Its membership should change with the times, but not so rapidly as to disrupt continuity of thinking. Momentum is lost when each new project is treated as an independent item and put in the hands of a staff organized to perform this one task, and disbanded after its report is written. If the National Bureau can claim that its many investigations have promoted one another and promise to cumulate still more effectively in the future, it must thank those supporters who have believed that the needs of the times for economic research can best be met by systematic and persistent study of fundamental processes.

Effect of World War II on the National Bureau

The most obvious effect of the second World War on the

National Bureau has been the loss of personnel. Thirteen of our investigators and one of our Directors have been inducted into the armed forces; thirty-five staff members and collaborators, and at least four Directors have entered the civilian services of the government. Some of the vacancies we have been able to fill by engaging men from universities where the student enrollment has declined sharply, women, and refugee scholars not eligible for military service or public employment. But some of the specialists among our collaborators and staff could not be replaced, and the projects on which they were engaged have had to be postponed for the duration. The most notable of these suspensions have already been mentioned.

In addition, the National Bureau has been asked to perform three considerable tasks for the public benefit. Geoffrey H. Moore has devoted much of his time during the past year to a careful study for the War Production Board of the war's effect upon physical output. For the same agency, Albert Wohlstetter has investigated the effect of World War I upon the labor force and output in Germany and Great Britain. As chairman of a committee appointed by the President of the American Statistical Association, Mills spent two months in examining the cost of living index compiled by the United States Bureau of Labor Statistics, on which those responsible for the national policy of wage control rely so heavily.

On our own initiative, we have published some of our *Occasional Papers* in a series called *Our Economy in War*. Last year's annual report by the Director of Research, Wartime 'Prosperity' and the Future, was issued in this series. Other titles are Prices in a War Economy by F. C. Mills; The Effect of War on Business Financing by C. A. Schmidt and R. A. Young; two papers by Charles R. Whittlesey, The Effect of the War on Currency and Deposits and The Banking System and War Finance; British and American Plans for International Currency Stabilization by J. H. Riddle; Railway Traffic Expansion and Use of Resources in World War II by Thor Hultgren; National Product, War and Prewar, by Simon Kuznets; Production of Industrial Materials in World Wars I and II by G. H. Moore; The Labor Force in Wartime America by C. D. Long; Canada's Financial System in War by B. H. Higgins; and Nazi War Finance and Banking by Otto Nathan. Additional papers in this series, now in press or in an advanced stage of preparation, are Corporate Cash Balances in Peace and War, 1914-1943 by Friedrich Lutz; Union Membership in Wartime by Leo Wolman; War Financing and the Pattern of Interest Rates by W. Braddock Hickman; Price Control, 1942-1943 by George Katona; War Financing and the Federal Reserve System by Anna Youngman; War Financing Methods and Postwar Inflation in Continental Countries by Michael Heilperin; Effect of War on Bank Liquidity by C. R. Whittlesey.

All these war studies are natural outgrowths of research we were doing or planning before Pearl Harbor was attacked. That our peacetime program proved pertinent to the needs of wartime is due to our founders who sought knowledge of the type they had wanted when sharing in the mobilization for World War I. This is knowledge of quantities as well as qualities. Based as it is primarily upon mass observations of actual processes, it has a definite relation to the 'real world'. Our findings concern conditions that are continuously changing because our basic data represent a 'dynamic', not a 'static' economy. In short, it is economic knowledge of the sort that can be put to practical use whether in peace or in war by men who have to cope with actual problems.

Hence, while the war has impeded our progress by drawing off many of our most valuable investigators and has led us to point up many of our findings to special exigencies, it has not called for sweeping alterations in our methods or in our program. We have continued our peacetime projects, not from reluctance to change our ways, but because in wartime the country more than ever needs knowledge of the kind we have been striving to gain. To us the lesson of war is that in years to come we should hold to the course set by our founders, pressing vigorously the basic investigations now in process, and, when social conditions require and our means allow, entering new fields.

Postwar Planning

The National Bureau's share in postwar planning is to foresee as best it can what objects of economic research will be most pertinent to the needs of times to come and which it is fitted to meet. Obviously, economic conditions in the postwar world will depend in large part upon the terms of settlement. Since we do not yet know these terms, we must base our postwar planning on what now seems probable. Fortunately, we can accept prevailing opinion on the basic issues. We take it for granted that the United Nations will win a complete victory over first Germany, then Japan. We assume that the United Nations will set up an organization of some type, in which the United States will join, for perpetuating the peace they have won. Finally, we assume that the American people will desire to resume their traditional form of economic organization as promptly as conditions make possible.

Given these assumptions, how should we use the resources entrusted to us? That is a question for the Board of Directors, and more particularly its Executive Committee, to answer. But it is the duty of the Director of Research to submit for consideration the views of the staff.

The transition from war to peace will be a time of sharp dislocations and hurried reorganization. Great as will be the rejoicing over victory and high as will be the hope of building a better world, millions of Americans will face grave uncertainties. So also in still greater degree will the peoples of other countries, whatever their present relation to the war. Returning men in the armed forces to jobs at home, winding up war contracts, reorganizing and retooling industry for civilian production, managing the public debt, arranging the resumption of international trade, and developing a practicable international currency are a few of the great and difficult tasks that must somehow be performed. Government expenditures will continue to run on something like the war level for months after military operations have ceased; interest charges on a public debt of more than $200 billion and our share in keeping the peace will hold them high for many years. How early a reduction of federal taxes will prove feasible we do not know.

Confidence that the many difficulties of returning to peace will be surmounted is enhanced by the care, not to say anxiety, with which postwar plans are now being laid by many agencies, private as well as public. The preparations by business and government to provide goods and jobs on a large scale as rapidly as possible should do much to facilitate the transition. A second favorable factor is the prospect that demobilization will be carried out in two steps—a start when Germany surrenders, a finish when Japan gives up. Third, an active demand for goods will be in prospect at home and abroad. In this country the demand will be especially keen for durables and semi-durables; foreign consumers will need also perishables in vast quantities, and the appetite of our own people will have been whetted for types of perishables that are now rationed or unobtainable. Both domestic and foreign demands promise to be greater than after World War I because this war and our participation in it have already lasted longer, because it has wrought greater destruction of property, and because mobilization has been more complete. At its end the peoples of Europe, China, and Japan will be even more impoverished than they were in 1919. Soviet Russia may be the only belligerent or occupied country in Europe or Asia to emerge in less desperate straits than in 1918-19, when it was torn by civil strife; but at best its needs for goods will be stupendous. A final promising factor is that American consumers will have on hand a wholly unprecedented volume of purchasing power—small hoards of currency that will make a vast aggregate, large deposits in commercial and savings banks, and billions in war bonds. Graver uncertainties exist concerning the purchasing power of foreign nations; but presumably some plan will be devised for financing their most pressing needs. All in all, there seems good reason to expect that business as usual can be resumed, at least in the United States, within a relatively short period, without grave hardship to many people, though not without much shifting about and temporary unemployment.

Perhaps the gravest danger is that the first postwar year may bring a great inflation of prices such as occurred in 1919. Then domestic and export demands for consumer goods became intense before industry could be reorganized for efficient production. Though war plants were closing and many demobilized service men were hunting jobs, savings and huge governmental disbursements combined with current earnings to provide abundant purchasing power. Retailers had difficulty in getting sufficient goods to satisfy eager customers, and marked up prices time after time. Wholesalers, jobbers, and manufacturers raised their prices in turn; even so they could not fill the flood of orders pouring into their offices. Frequently they could ship only a half or a third of the articles a retailer wanted. Disappointed retailers then began doubling or tripling the quantities they asked for. This pyramiding of orders produced an illusion of demands at unheard of prices for quantities of goods exceeding the country's ability to produce. The intensity of this boom brought it to an early end. What was called a 'buyers' strike' developed; the physical volume of goods sold declined sharply, and after May 1920 prices began to topple in wholesale markets. Dealers frantically tried to cancel the unfilled orders they had recently written up, and the boom turned into a swift and drastic contraction. The winter of 1920-21 brought widespread unemployment, heavy cutting of wage rates, and an epidemic of bankruptcies. Not until this unhappy episode had been played through to its dismal finish did the country enter upon what we now remember as 'the prosperous '20's.'

It is to be hoped that the recollection of what happened in 1919 will be kept fresh in our minds as we come close to the day of victory. For basic conditions respecting demands for commodities, quickly available supplies, and consumers' purchasing power promise to be a more extreme form of the conditions that prevailed at the end of World War I. Unless we resist the temptation to grasp at paper profits from price speculation, we shall repeat the costly errors we made then.

Our Program of Research in Finance and Conference on Research in Fiscal Policy are both preparing reports relating to the transition period. The first is dealing on the one hand with the condition of the banks and the monetary circulation, on the other hand with the financial condition and requirements of business enterprises. The Fiscal Conference is studying public debts and tax burdens, when and how they may be reduced. These groups can serve effectively because they have investigators and advisers experienced in handling similar problems, can draw upon large collections of data begun for other ends, and after the war will not be thwarted by inability to get the personnel they need. It seems to the staff highly desirable that these researches should be continued and extended in whatever direction conditions require. The like applies to the studies the Conference on Price Research is planning of price controls and rationing during the transition period.

Our assumption that, after a relatively brief transition, economic organization will resume basically its wonted form in the United States implies that researches pertinent to the prewar peace, and found useful also during the war, will continue to be pertinent in the postwar peace. In the opinion of the staff, the unfinished business on our agenda is business that should be transacted. We may expect, indeed, a wider appreciation of the value of what we are doing because the public will be more aware of the nation's capacity for producing goods, more critical of any failures to realize the potentialities of our system, and more concerned with the role played by government in economic functioning. Also, the war will facilitate research of our sort by extending, as World War I did, the range of quantitative data at an investigator's disposal. This welcome development has made notable progress even during hostilities. But while the substantial continuity of economic organization will warrant a corresponding continuity in our program, some shifts in domestic conditions and some changes in the country's international position can be foreseen that may call for modifications of emphasis upon different lines of investigation, and perhaps excursions into new fields.

To begin with international conditions: The United States will find that its position in the world economy has shifted under stress of war. It is a common, though not wholly accurate, saying that ours was a debtor nation when World War I began and a creditor nation when it ended. Our experience had done little to fit us for grasping the opportunities or meeting the responsibilities of a creditor position, and we did not adapt ourselves effectively to this shift in our fortunes during the twenty-one years of peace. Our great economic accomplishments had been occupying our homeland, exploiting its natural resources, and raising our own standard of living. We had borrowed foreign capital and welcomed immigrant labor, we had exported products the world could not get so cheaply elsewhere, we had imported raw materials and such fabricated goods as we could not ourselves produce; but for the most part we lived on our own much as a frontier family lived, and as we grew, we tried to become more instead of less self-sufficient. We gradually gave up our once great trade as an ocean carrier, repaid the bulk of our foreign debts, and practiced protection of home industry more vigorously. After the first World War we restricted immigration. When we began making large foreign loans, the heavy losses we suffered showed our ineptness at this type of business, and discouraged its continuation. We were reluctant to accept payment of debts due us in goods we could make at home. High as we had built our tariff wall when we were struggling to develop large and diversified manufactures, we built the wall higher still in 1930, after our creditor position had been firmly established.

We shall emerge from World War II more than ever the world's creditor on financial account. Ours will be the only great industrial system that has not been gravely damaged by enemy action. And this system will not have been converted to war uses to quite such a degree as has been necessary in other belligerents. We shall have more ships and more airplanes than any other country. Finally, our losses in manpower through battle casualties, epidemics, and undernourishment promise to be relatively smaller than those of the nations that have been fighting longer, or have been occupied by enemies and subject to their exactions. At least until the ravages of war have been repaired, the United States will have no rival in economic power.

How our people shall exercise this power is one of the momentous issues on which they must presently make up their minds. While it is assumed here that they will join political and military measures for maintaining future peace, it would be risky to assume that the abandonment of quasi-isolationism in world politics will be accompanied by the abandonment of quasi-isolationism in world economics. We shall be in a unique position to help other nations; presumably we shall desire to do so, and mainly on a business rather than a charitable basis. But the ticklish question arises: How shall we let other nations serve us in return? Presumably we shall extend credits for a time; but in the long run we shall want payment of interest and assurance that we can get back the principal of our loans. It is doubtful that we will willingly add to our enormous present stock by accepting gold; in any case the quantity of gold other countries could send us would be a minor fraction of their debts to us. No large amounts of American securities remain in foreign hands available for repatriation. Shall we take title to foreign properties running high in the billions of dollars—

property that cannot be transferred to these shores? Some countries produce raw materials our industrialists want or consumer goods we cannot produce at home; but most of the countries with which our trade is large and whose wants will be as great are highly industrialized, and many of their products compete with our own. Have we reached the stage where we are ready to modify our traditional policy of protection, and take payment freely in goods of any kind our people are ready to buy? Is any other form of payment available in adequate volume? What will be the consequences to our own interests and to those of other countries if we refuse to lower tariffs duties, and what will be the consequences if we lower them?

Foreseeing this issue more than a year ago, C. Reinold Noyes of our Board suggested that the National Bureau consider a factor in international relations that for lack of a better name he called the 'export of technology'. This term is taken in a very broad sense to include the employment of American business organizers, engineers, and skilled craftsmen to improve methods of producing and distributing goods in other countries; the leasing of patents, and the training of foreigners in our technical schools, mines, factories, and offices, as well as the exporting of industrial equipment. Many nations we think of as 'backward' will seek to increase their manhour productivity, and are likely to turn to us as both the best teachers and the best machine builders. To render this service should be profitable in the short run, and still more so in the long run; for experience assures us that we do most business per capita with nations of the highest technological development.

Our efforts to outline this project in adequate detail, to find out whether materials can be had for a satisfactory investigation, and to estimate how large a factor the export of technology may become, have been retarded by difficulty in finding someone with the proper qualifications to make a reconnaisance survey. For this preliminary job the Executive Committee has made an appropriation and we now have grounds for hoping that the scholar of our choice will take charge.

However much the export of technology might profit the United States and benefit the populations of other countries, it would not solve the problem of getting paid for our exports. In some degree selling of the 'know how' to make goods may be an alternative to selling goods, and the bill for the teaching may be less than the bill for the goods would have been. But in the short run, foreign countries may want both goods and teaching, while in the long run, as already said, highly industrialized areas will buy more rather than less from us. Certainly we should have fuller and wider understanding of the effects of high tariffs under the conditions we shall face.

This old controversy, in which economists have approached nearest to unity of opinion and (except in Great Britain) have failed most uniformly in getting that opinion followed, will assume new aspects and perhaps the change in the times will cause many men to switch sides. If our technological triumphs mean that many American industries will be the world's cheapest producers in their lines, then their managers, investors, and employees may be eager to win foreign markets and willing to open the American market to foreigners in return for relaxing their restrictions on imports. Export industries have in general supplied the minority that has protested against high tariffs and occasionally won temporary reductions. If powerful interests that have been strongly protectionist in sentiment now become avid for export markets and change sides on the tariff, what has seemed an irreversible policy may be altered substantially. There are observers who think such a development possible.* But that raises another issue.

High productivity per manhour does not necessarily mean low cost of production per unit of output. Apart from taxes, two other factors must be considered—the cost of the industrial equipment used and the price paid for labor.

American labor owes its high efficiency mainly to skill in using the industrial equipment designed by engineers and paid for by investors. On a cost-accounting basis, the expense of the equipment becomes an interest charge upon capital invested, plus a charge for depreciation, both figured per unit of ouput. The in-

*See, for example, Curtis P. Nettels, 'Economic Consequences of Wars; Costs of Production', *Journal of Economic History*, Supplement, December 1943, pp. 6-8. Nettels does not think it probable that low-cost industries will win the United States over to free trade, because American agriculture will find itself in the high-cost ranks compared with formidable foreign competitors and demand protection —thus reversing its earlier role.

vestment charge is based on rates applicable to 'venture capital'. Some of our most successful industrial corporations enjoy a credit enabling them to borrow at very low rates of interest; but their managers will neither invest the corporations' own funds nor borrow to invest unless they see prospect of getting a return that compensates for the risks involved. When an enterprise in less secure position borrows, the lender reviews its plans with a critical eye upon its chances of success, and charges a corresponding rate of interest. What will be the effective interest charges upon new capital invested in industrial equipment after the war thus depends largely, perhaps mainly, upon the assessment of risks by business executives, bankers, and the investing public. Business men may be confident of a profitable demand for their products immediately after the war, but doubtful about its continuation during whatever long run is covered by the prospective life of the equipment in which they might like to invest. We cannot assume that large sums will be put into industrial enterprises by men who do not expect a higher return than the standard interest rates quoted currently in the financial press on fully secured loans. Saying how high the effective rates will be is guessing at the degree of confidence investors will feel in the success of their plans for the future. Possibly these rates will be lower than in the 1930's, but we cannot be sure.

Among the factors affecting rates on venture capital is the risk that equipment will become obsolete long before it is worn out. While the rapid improvements in technology of which we hear such gatifying reports may make enterprising industrialists wish to adopt the latest methods, they will reflect that the faster the rate of technological change the more rapid is obsolescence, and therefore the higher should be their charge for depreciation or their provision for contingencies. Mounting technological efficiency imposes costs that offset part of its gains.

In most industrial operations, however, the annual payroll far exceeds the annual interest charges plus profits. It is one of our national boasts that wages in the United States are the highest in the world—not only hourly rates but also annual earnings. And never have these boasts rested on firmer evidence than at present. Moreover, in the past American labor has scored its greatest gains during the process of readjustment after great wars.

The prices of labor have declined from their wartime peaks, but less rapidly than the prices of commodities at retail. True, during postwar depressions the slighter fall of wage rates has been more than offset by widespread unemployment. But when business picked up again, the slow subsidence of wage rates compared with living costs has brought about a substantial rise in 'real wages'.

Whether this bit of economic history will repeat itself after World War II remains to be seen. Workers will be reluctant to see their rates cut, and the strength their unions have gained during the war will presumably be used to resist reductions. Men now doing work that will continue in peace will be best off. Those engaged in work that ends with the war must change jobs, if not employers or homes, and, as applicants for new openings, will be in a weaker position. Presumably many may have to take fresh jobs at rates considerably lower than they are now getting. Also the period of transition will probably bring the disintegration of some unions and a general decline in membership. But similar conditions prevailed at the end of World War I and their probable recurrence after this war establishes no expectation that wage rates will not lag behind living costs on the decline as they did then.

In bargaining about wage rates, wage earners and employers will confront as puzzling a combination of common and opposing interests in postwar as in prewar times. Both parties in an industry will be concerned to expand its market, for output and therefore employment depends on sales as truly as do profits. The sales of any product depend in turn on keeping its unit price so adjusted to the prices of other goods as to attract buyers. The lower the selling price in relation to other prices, the larger the sales as a rule; but prices must cover costs if profits and employment are to be assured. In most industries, labor charges are the largest item of expense next to materials. So if it seeks to maximize the incomes of its whole membership, which not all unions do, a union has to consider what effect the wage rates it demands will have upon unit costs, unit selling prices, physical volume of sales, and employment. Wage rates can be set so high that they lower the incomes of workers either by raising prices and reducing sales or by heightening the employer's incentive to install labor replacing machinery. Wage rates can likewise be set so low that the members of a union, however fully employed, receive smaller incomes than a more aggressive policy might have brought. To determine what rates between the patently too low and the patently too high will be most advantageous to labor will tax the shrewdest judgment.

The wage rates most advantageous to the employer are no easier to determine. Of course the employer suffers from rates so high that they force an advance of selling prices sufficient to reduce sales drastically. On the other hand, very low rates do not suit an employer who must get an adequate supply of competent labor in competition with other industrialists. Moreover, an employer's interest in expanding sales leads him to wish consumers to have abundant purchasing power; that is, to wish that prevailing rates of wages multiplied by volume of employment be kept on the highest possible level—though this wish may not make him keen on paying high wage rates in his own business.

These various considerations have to be applied by unions and employers alike to the differing and ever shifting conditions under which their several industries operate. Among the important variables are the relative magnitudes of labor and other costs, the closeness of the link between unit costs and selling prices, the elasticity of demand, the pace of technological advance, the situation with respect to competition within the industry and competition with other industries for the favor of buyers, the limits upon market expansion set by costs of transportation, and the declining, stationary, or ascending trend of the demand for the industry's products. Many of these matters are imperfectly known, and each party in collective bargaining about wage rates must guess what the other party really thinks concerning present conditions and future prospects. Nor is sober analysis of common and conflicting interests ever the sole factor in wage bargains. Frequently anger, obstinacy, personal ambition have as large a part in fixing demands and swaying the final decision.

When a problem is so complex as almost to defy analysis, or so beclouded by feeling that reasoning is warped, the teachings of experience merit even more than their usual consideration. On this ground, we may hope that the National Bureau's large collection of data concerning wage rates, employment, and earnings will prove widely useful to both trade unions and employers in the great controversies that must be expected. Wolman's studies show more clearly and more fully than any others known to us the effects produced by different policies with respect to rates upon employment and total and per capita earnings in industries facing a wide variety of conditions over considerable periods. If the United States resumes its customary form of enterprise, this experience will be pertinent to the tangled problem of postwar wage adjustments, on the solution of which the incomes of wage earners, the prosperity of business, and the future of free enterprise depend. One of our most pressing duties in the opinion of the staff is to round out these studies and make the findings widely available as soon as possible.

Obviously, the level of wage rates established in the United States after the return of peace will affect its position as a competitor in foreign markets—which takes us back to the question that brought up the wage issue. Wage rates high in proportion to manhour productivity would tend to restrict our export trade, and so in the long run make somewhat less embarrassing the quandary of how to accept payment. But in view of the urgent desires of foreigners for American goods, and the absence of other sources of supply, it is doubtful that unit prices will be the major determinant of exports during the first few years after the war. In the short run, wage rates that mean high unit prices of products may swell the dollar value of exports, and render the payment puzzle more rather than less embarrassing.

This issue cannot be dodged and one of the most pressing postwar needs will be to find a satisfactory solution. How that can be accomplished, however, is far from clear. Certainly the National Bureau has no special competence on the tariff; it has none of the foreign connections required for a thorough factual investigation; it lacks funds for the field work that would be necessary. On the other hand, we have full employment for all our resources in hand and in prospect. Meanwhile the country possesses in the Tariff Commission an agency with an experienced staff and files containing a vast range of information. In negotiating commercial treaties with many nations, the Department of State has become intimately acquainted with the gamut of problems relating to international trade in the form they assumed between the two world wars. These are largely matters that must be dealt with by diplomatic agencies. Not merely tariffs designed to protect domestic industries, but also import quotas, bounties on exports, exchange controls, quasi-official cartels, and other governmental devices to limit or divert trade must be considered in detail, and they can most effectively be dealt with as a unit. While the preponderant economic power of the United States in the postwar world will give great weight to whatever policies it favors, no nation can achieve a satisfactory solution by itself. What procedures will be adopted, and what attitude majority opinion in this country will take toward foreign trade we do not know. Possibly we must reconcile ourselves to a continuation of our old tariff controversies, conducted by speculative reasonings, *ex parte* statements of facts, and appeals to unenlightened self-interest. If so, we must hope for the coming of a more intelligent day, and meanwhile expect trouble.

Barring unfavorable occurrences we do not foresee, the active domestic demand for goods, supplemented by a huge export demand, promises to make our traditional form of economic organization function to the general satisfaction, once the period of transition from war to peace is safely passed. This organization runs most smoothly when demand for products is active; for, while it lasts, a large demand brings relatively full utilization of labor, capital, organizing ability, and natural resources. That is why war, the most destructive of human activities to wealth as well as life, produces a semblance of business prosperity, despite the disorganization inevitable in the hurried shift from free enterprise to governmental planning. Postwar demands for goods are not likely to match the insatiable demands of war; but they should suffice to keep the American people fairly busy at least until domestic consumers have satisfied their pent-up demand for goods they cannot now buy, industry has reequipped its plants, foreign nations are able again to produce most of what they require, and unwillingness to receive payments in goods has checked exports.

During these good times Americans will congratulate themselves upon the efficiency of an economic system that passed the test of war with flying colors, reconverted itself to peaceful conditions promptly, caught up war shortages at home, and helped foreign countries to get back on their feet. This industrial accomplishment will show us at our best. The test that will be hard to pass will come after the extraordinary postwar demands have been satisfied and our business settles down to supplying the continuously recurring demands of a long stretch of peace. Can we then maintain a high level of employment, year in, year out?

Experience answers 'no'. Our business record has been one of alternating expansions and contractions. Only near the peak of our most vigorous expansions have we approximated full employment, and no approximation in peacetimes has been so close or lasted so long as the approximations achieved during major wars. Unless we can learn to manage our affairs more skillfully in the future, we must look forward to an indefinite series of cyclical depressions, some relatively mild, some drastic.

To many this prospect may not seem exceedingly disturbing. Despite the long hard times of the 1870's, the middle 1890's, and the 1930's, not to mention the more numerous brief setbacks, some of which were very severe, we think of the United States as having prospered wondrously on the whole. There can be no question about our secular gains, attested as they are by a rise in the standard of living so rapid that every generation has congratulated itself upon surpassing its fathers in comfort, health, and education. If we have gotten on so well heretofore despite recurrent contractions, why should we fear their future recurrence? Granted that they bring heavy financial losses and hardships to millions of families, may we not think of them as a moderate price to pay for the progressiveness of free enterprise?

Even those disposed to answer 'yes' will admit that free enterprise could give no more impressive proof of continued progressiveness than to devise some way of preventing, or at least ameliorating, cyclical depressions without checking growth. If that is not accomplished, there seem to be reasons for expecting that public opinion will become more critical than ever before of our traditional form of economic organization, and demand radical changes.

Just at present Americans are restive under the restrictions upon their freedom to choose their own occupations, and to buy any goods they like at whatever prices they please to pay. True, our people imposed these restrictions upon themselves by democratic procedure to gain an end they deemed worth the cost; but that fact does not prevent a feeling of irritation from spreading even among folk who chide themselves for harboring it. The innumerable maladjustments incidental to the hurried governmental planning and administering of a vast economy bring criticisms of bureaucracy seldom tempered by recognition of its achievements. The shortcomings of free enterprise, on which we were dilating during the Great Depression, are temporarily forgotten. But if another severe depression occurs after a few years of peacetime expansion, will not our tempers and our memories shift once more? Will not millions of people then recall the full employment and the high wages that prevailed under governmental supervision and argue that national planning brings better results than free enterprise? An economic organization that cannot use the most abundant resources in the world to make the goods its people are eager to produce and to consume will come in for heated condemnation and angry demands for drastic 'reforms'. People will listen sympathetically to advocates of over-all governmental planning in peace as well as in war. Such advocates we have with us now, and they will multiply in hard times.

A second factor will reenforce the first—the quite unexpected efficiency of the Soviet economy. American Socialists have long argued for a vigorous extension of governmental control over economic activities, but at best they were presenting a bright vision of what might be. After this war, critics of American institutions will stress the fact that the USSR after disastrous initial defeats, and after some of its most highly industrialized districts had been overrun by the Germans, was able to put into the field an enormous and well equipped army that expelled the invaders. They will admit the receipt of lend-lease aid from Great Britain and the United States, but they will claim, seemingly with justice, that the bulk of the supplies and equipment for both the armed forces and the civilian population were produced at home. If the Bolshevists hold to their modified form of communism after the war, and if it approximates the efficiency it is demonstrating now, critics will allege that Americans could maintain full employment of all their resources all the time if only they would stop producing for private profit and reorganize to produce for the common welfare.

Thus one of the developments that peace seems likely to bring the United States is a fierce controversy over the fundamental character of economic organization. No doubt there will be sharp differences of opinion about the precise role to be assigned to governmental planning even during the transition from war to peace; but they promise to concern details rather than fundamentals. The most fervent advocates of free enterprise may wish to proceed cautiously in dropping some of the controls over prices and foreign trade, while many advocates of governmental planning may present it as an adjunct necessary to preserve free enterprise. The all-out struggle will not come until we have reverted to business as usual, practiced it buoyantly during several years of active demand for goods, then succumbed to severe depression.

Some such prospect seems now to haunt the minds of many men of affairs, and to animate their postwar planning for high-level employment on the basis of free enterprise. So long as this feeling of responsibility and caution prevails, and the demand for goods continues large, a breakdown seems improbable. But after prosperity has run its accustomed course for a while, will not overconfidence spread as it has under similar conditions in the past? The great smash in 1929 came after 'the business cycle had been ironed out' in the minds of the business public and investors.

To say that a few years after peace is made the dominant economic problem in this country will be to maintain employment on a high level is equivalent to saying that the dominant problem will be how to avoid major cyclical contractions in business activity. That, in turn, is the principal aim of business cycle research. By finding the causes of recurrent alternations of expansion and contraction, investigators have hoped to discover how contractions can be averted. The number and diversity of the diagnoses and prescriptions offered, long a reproach to economics, stems from the inability of investigators to determine how adequately their own and one another's explanations account for what actually happens during a business cycle. Even the 'theories' most fashionable today are really untested hypotheses. Yet some of their advocates offer practical guidance to government and public with an assurance that contrasts painfully with the caution of responsible physicians in treating imperfectly understood disorders of the body.

As its contribution toward scientific treatment of this problem, the National Bureau has been trying to ascertain empirically the round of occurrences that constitute a business cycle. That is an undertaking far beyond the resources of an individual investigator, for it involves analyzing the behavior of many economic activities during as many business cycles as are covered by the records. Both activities that do and do not conform regularly to the general tides of expansion and contraction are included; for the problem concerns the functioning of the whole economy. Several countries are covered, because business cycles have an international sweep. Numerous cycles must be observed, for thus can we best distinguish between cyclical movements proper and the effects of the random factors that at all times influence business. The job is so large and requires so much thinking about both conceptual and technical issues that our business cycle unit has spent some sixteen years upon it without coming in sight of the finish. But we have reached a stage where it seems feasible to attempt a provisional summary of the leading results. In view of the crucial role employment promises to play in peace, the staff believes the National Bureau can render no better service than to complete this provisional summary as soon as possible, making our findings available to economists who take the business cycle problem seriously and to men who have to wrestle with it in practice.

That after the war the country will follow changes in national income and its distribution more anxiously than ever seems almost certain. The Conference on Research in Income and Wealth will have reason to encourage discussion of the ever present and ever changing conceptual and measurement problems in its field, and to enlarge the area of common agreement. In particular, it will wish to resume its efforts to get more trustworthy estimates of the distribution of income by size among families and individuals.

Our assumption that after the war the American people will resume their traditional business practices implies reliance upon market mechanisms for determining the prices that guide production and effect distribution. But this will not be a return to the price status *quo ante*. We do not know how the general level of commodity quotations will compare with prewar figures; we can be sure that this 'level' as shown by comprehensive index numbers will fluctuate continuously, and experience suggests that for several years the fluctuations will be violent. We can be sure also that the interrelations among different sectors of the price system will have been altered by such factors as technological advances, new pricing policies in business, changes in the organization of wage earners and employers, and shifts in international trade. To understand the economic happenings of postwar years, we shall have to take account of these alterations in the structure of the price system. Not only should the Conference on Price Research complete its studies of rationing and price controls during the transition from war to peace, it should also continue its long run plans for exploring the methods of determining prices in different branches of business, and the consequences to which they lead.

Likewise the Program of Financial Research is dealing with activities that will be maintained if free enterprise flourishes. Our staff and their advisers believe that they should round out their studies of (1) consumer instalment credit, (2) investment credit, (3) business financing, and (4) war financing by entering the fields of (5) agricultural and (6) mortgage credit. Presumably there will be call also for certain studies in international credit and finance; but just what extensions in this direction will be proposed to the Executive Committee cannot yet be said. While these fresh ventures are being planned, the staff should push further its analysis of the invaluable materials already collected on the financial aspects of business and investments. The successful execution of these plans would provide a well rounded view of the nation's credit system and of the part financing plays in both private and public activities.

There seems as little doubt that the undertakings of the Conference on Research in Fiscal Policy should be continued and perhaps expanded. The management of the huge federal debt and the readjustment of federal taxes are matters that touch every bondholder and every taxpayer directly and the whole population indirectly. Study of these problems by an agency independent of government, yet serving no private interest, should contribute both critically and constructively toward wise action.

It augurs well that business executives are coming to appreciate more clearly the interdependence of all economic activities. If an enterprise is to prosper it must contribute toward as well as benefit from the prosperity of others. This heightened appreciation of common interests creates a climate of opinion favorable to the collection and publication of economic data for the common benefit on an increasing scale. But these data cannot tell their full and true story without an interpreter. An agency equipped with a trained staff and advisers experienced in many lines of business, in a position to analyze current trends impartially, is likely to find its aid welcomed more widely the more the common responsibility for maintaining employment is recognized.

It is not suggested that the National Bureau should confine itself to finishing the tasks already in hand. One extension of our program, mentioned casually above, impresses the staff as especially desirable—a search for the leading factors that determine the rate of secular change in national output and in standards of living. In recent years an influential group of economists has contended that the American economy has become 'mature' and cannot continue to grow in the future as it has in the past. On this premise, they have advocated far-reaching alterations in economic policy. Technological experts have vigorously denied their premise, but the evidence for and against it has not been subjected to searching examination. A thorough critique of these opposing opinions is much to be desired. Still more useful would be a constructive study of factors that tend to accelerate and factors that tend to retard economic growth from generation to generation. Some of the tools we have forged and materials we have gathered would prove useful—notably Burns' analysis of *Production Trends in the United States,* Jerome's *Mechanization in Industry,* our estimates of national income since the 1880's, our series of researches on production and productivity, some of the measures of inter-cycle trend made by the business cycle unit, what this unit is learning about the relations between short- and long-term movements, and certain findings of the Program of Financial Research. This equipment would have to be assembled and put in order for the new task. It should be augmented from many other sources according to carefully thought-out plans. Nor could the investigation be wisely confined to the United States. A comparison of rates of secular change in several countries possessing different types of resources and economic organization would afford a better chance to formulate and to test hypotheses. Envisaged in this broad way, the task looks formidable, and it would be more likely to grow than to shrink on our hands. No commitment should be undertaken without careful consideration of alternatives. But at present we see no other venture that

Part Two

A RECORD OF 1943 AND PLANS FOR 1944