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*Report of the Director of
Research*

FOR THE YEAR 1933

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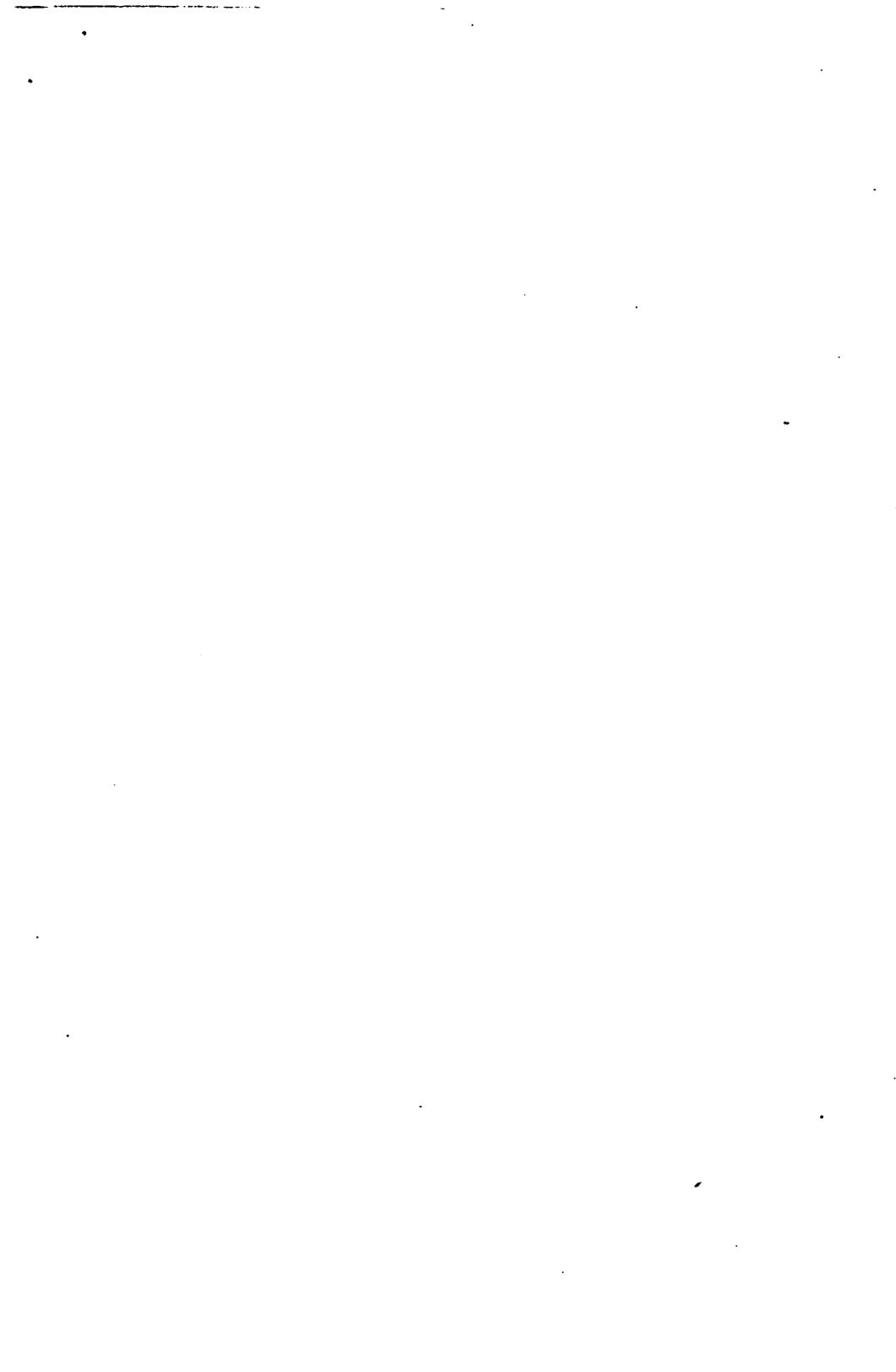
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I. Our Prospects in 1933 and in 1934

WHEN the Directors of the National Bureau of Economic Research held their annual meeting a year ago it seemed not improbable that this year's meeting, if held at all, would be devoted to winding up our affairs. The report of the Directors of Research then presented spoke of 1932 as 'a year of adversity in the life of the National Bureau'. The budget had been cut by almost two-thirds, the number and remuneration of the staff had been reduced, some of our activities and projects had been suspended. The chief item in our income—a generous Foundation grant—was approaching its term, and none of us knew whether it would be possible to continue our work beyond 1933. To cap the climax, Dr. Edwin F. Gay, upon whose wisdom and initiative we had depended so heavily for nine years, told us that he was leaving for England and asked to be relieved of his duties as Director of Research. So, while hoping for the best, we prepared for the worst by restricting current operations and accumulating as large a reserve as we could, in order that we might at least finish certain investigations then approaching the stage of publication.

Despite this discouraging outlook, the report of the Directors of Research submitted last February closed 'on a note of confidence'—a note sustained in the discussion which followed its reading. That this confidence in the National Bureau's standing in public esteem as an agency that deserved to survive the hard times was not misplaced is shown by the cheerful record of 1933. The donors to whose faith we owe so much renewed their grant last June. Three other Foundations, two of which had not previously shared in our support, made contributions. Our individual and corporate

subscriptions have been maintained on a more generous scale than was expected. Hence it has been possible not only to carry forward the work we had in hand last February, but also to resume on a modest scale certain of the activities suspended in 1932, to add several much needed workers to our staff, and to enlarge somewhat the scope of our investigations. By autumn the Executive Committee deemed it safe to restore the remuneration of the staff to its former level. Yet we ended the year with a comfortable surplus of funds, and are able to present a budget for 1934 that contains an adequate factor of safety.

Gratifying as this change in the condition and prospects of the National Bureau must be to all of us who bear the responsibilities of Directors, self-congratulation is not the sentiment uppermost in our minds. The National Bureau has received a new lease of life at a time of grave uncertainty, because many men expect from us aid in solving some of the problems that beset the present and becloud the future. What problems we shall attack and how we shall deal with them, our supporters leave us to decide. For their confidence in our methodical way of working, in our integrity of purpose and in our good judgment we are grateful; but we realize that in accepting the trust reposed in the National Bureau we are assuming an exacting responsibility. To make the best use we can of the opportunity offered us will call for all the wisdom we can muster. Ultimately this responsibility rests upon the Board of Directors; proximately it rests upon the staff of investigators. A peculiar share rests upon the Director of Research, who needs the continuing counsel and criticism both of his co-workers and of his co-Directors.

II. Last Year's Work

AMOUNT AND DISTRIBUTION OF THE NATIONAL INCOME

THE Directors will recall that the National Bureau was invited late in 1932 to collaborate with the Department of Commerce in preparing estimates of the national income in 1929, 1930 and 1931, which had been requested by the United States Senate. Dr. Simon Kuznets devoted most of his time in the first quarter of 1933 to laying plans for this work with the Department and to training the research assistants assigned to him in Washington. Later it appeared that the estimates could not be finished by the date set, January 3, 1934, without the active aid of our experienced workers. Accordingly, Miss Lillian Epstein and Miss Elizabeth Jenks were drafted into service. As a result, the estimates were completed, including preliminary figures for 1932, the explanatory text was written by Dr. Kuznets, and the report was submitted in time to be transmitted to the Senate when it convened for the present session. The report will be published soon as Senate Document No. 124, of which we hope to obtain copies for our contributing members. Meanwhile the broad results of the investigation have been presented in our *Bulletin*, issued January 26, 1934.

While this cooperation with the Department of Commerce has imposed a heavier burden upon the National Bureau's staff than was contemplated, it has given us access to new materials of considerable value, and so puts us in a better position to carry out our plans for a systematic revision of the estimates made by Dr. King. The theoretical basis for the

revision was laid down in memoranda presented by Dr. Kuznets in 1932. Until interrupted by the necessity of helping out the Department of Commerce workers, Miss Epstein and Miss Jenks devoted their time to collecting and analyzing income data for earlier years. When the report for the Senate was finished, they returned to this task. Dr. Kuznets wishes to add a third worker to his staff and in no long time to carry the revision of our earlier estimates back to their beginning in 1909. If the data prove not too inadequate, he will extend his work to 1899.

An interesting outgrowth of collaboration with the Government is that the Department of Commerce has made available to us some 9,000 questionnaires collected to show the incomes of physicians, dentists, lawyers, engineers and accountants in 1929-32. The Executive Committee authorized us to analyze these returns to find how professional incomes are distributed by size. This analysis was begun last autumn under Dr. Kuznets' direction by Mrs. Lucile L. Kean and Mr. Arthur Stein. The samples for one or two of the professions turn out upon close examination to reveal a systematic bias, and we are not yet sure that all will merit full analysis. It may prove possible, however, to secure more representative samples in the future. Our long-established interest in the distribution of income requires that we try not only to learn what we can from the data in hand but also to improve the range and reliability of the samples.

For several years the Directors of Research have been hoping to increase the usefulness of national income estimates by making the bases upon which estimates are prepared in different countries more comparable. While in England last year Dr. Gay discussed this problem with Professor Bowley and other authorities in the field. The International Institute of Statistics has agreed to put this topic upon its program for the meeting to be held in London next April. Dr. Kuznets has prepared a review of the differences in mode of construction that hamper comparisons among the estimates now available for various countries, and has suggested cer-

tain steps toward closer international collaboration in dealing with these problems. This review is being submitted to the International Institute and may be used as the basis of discussions in which we hope Dr. Kuznets will take part.

PRICES AND PRODUCTION

Work in the two fields of prices and production has been carried forward concurrently during the year by Dr. Mills, Mr. Bliss, Mr. Fabricant and their assistants. Their experience in the preparation of material for *Economic Tendencies* confirmed the conclusion that price relations and the processes of production should be studied together. The materials available for the analysis of price movements are enriched as a result of such combined investigations, through the derivation of various measurements of per-unit cost not otherwise obtainable. Moreover, joint study is essential to the proper interpretation of the movements of prices and changes in the processes of production. It is planned, accordingly, to conduct in close association these two related lines of investigation.

As a continuing part of their work, Dr. Mills' unit has undertaken to construct, on an annual basis, comprehensive index numbers of the physical volume of production in the United States. Indexes of manufacturing production and of general industrial production are published currently by several agencies, but no suitable combination of these data with measurements of agricultural output, and with results secured biennially from the *Census of Manufactures*, is effected on a continuing basis. Dr. Mills made such combinations in *Economic Tendencies*, and it seems desirable that we assume this work as a regular function of the National Bureau. In so doing we shall derive measurements useful in our investigations of production and prices. Also our annual measurements may prove of value to the business world and to economists. These results will be released annually, in special *Bulletins*.

During the past year the work of Dr. Mills' unit has centered on the following activities:

1. The extension of our historical record of the movements of wholesale prices, by commodity groups.

For several years the unit has been building up a comprehensive series of index numbers and other measurements descriptive of the price behavior of important groups of commodities in the United States for the period from 1890 to date. A few of these index numbers have been published, but a great many not yet published have been constructed for dealing with component elements of the price structure and for testing the significance of various classifications of commodities for analyzing price behavior. The task of deriving these measurements, which is tedious and laborious, was speeded up during the past year through the aid of several computers supplied without cost to the National Bureau by the Gibson Committee for the relief of unemployed persons. As a result, the National Bureau now possesses index numbers of price changes from 1860 to 1891 for commodity groups in four classifications, similar measurements from 1890 to 1927 for ten classifications, and additional measurements through 1932 for nine classifications. We have also detailed measurements of trend, variability, frequency of price change and cyclical behavior by groups for ten classifications.

Not all of these measurements will prove to be significant, and some will be rejected after testing. As a body, however, they constitute a rich collection of materials for use in studying the characteristics of the price system.

2. The construction of current index numbers of wholesale prices, by months, for various commodity groups.

In following current price movements we make, from the quotations compiled by the United States Bureau of Labor Statistics, index numbers for several major commodity groups not presented in the government publications. These results cover by months the period January 1929 to date. During the current year several of these group index num-

bers have been revised and broadened in scope, and the method of construction has been improved.

3. The acquisition of materials on price movements in foreign countries, for use in a monograph dealing with price changes during the depression.

In the main our price studies are restricted to American materials, but it is desirable that the special report on recent price changes give some attention to the world setting, within which the domestic changes occurred.

4. The improvement of our index numbers of manufacturing production.

The index numbers of changes in the volume of manufacturing production, published in *Economic Tendencies*, were so constructed as to be comparable with census statistics of material costs, wages paid, 'value added' and total value of manufacturing product. This was essential in deriving accurate measurements of changes in average cost and in average selling price per unit. When primary interest attaches to changes in physical output, somewhat more comprehensive index numbers should be constructed and somewhat different weighting methods should be employed. We are, therefore, making revised index numbers of manufacturing production, supplementing those already available which were designed to serve a somewhat different purpose.

5. The detailed analysis of changes in production, productivity, per-unit costs and prices in manufacturing industries of the United States.

Previous studies carried this analysis through 1929. More recent records for the Census year 1931 have now become available, and they have been exploited during the past year. For all important industries and for important groups of industries, we now possess measurements of this type for 1931, similar to those for earlier years given in *Economic Tendencies*. At the same time we have derived for earlier years new measurements relating to important industrial groups.

TYPES OF ECONOMIC FLUCTUATION

Early in 1933, Dr. Kuznets gave the finishing touches to *Seasonal Variations in Industry and Trade* which was published on March 31. Late in the year Dr. Burns did the like to *Production Trends in the United States Since 1870*, though this volume received a 1934 imprint. Each of these books, we may fairly claim, takes first place in its particular field.

Closely related to the National Bureau's continuing work upon business cycles is the special investigation made by Professor John Maurice Clark at the request of the Committee on Recent Economic Changes. Professor Clark's manuscript, based in large part upon study of materials which we provided, was considered by this committee as well as by our Directors, and revised by the author in the light of the criticisms made. It appeared early in January of this year under the title *Strategic Factors in Business Cycles* and promises to command wide attention.

Dr. Carl T. Schmidt, one of our Research Associates in 1931-32, has extended his monograph upon *German Business Cycles* through 1933. The manuscript has been approved by the Directors and will be published as Volume 25 in the National Bureau's series.

After leaving the National Bureau in 1932 Dr. A. G. Silverman participated for a year in the study in progress at Brown University of the international workings of the gold standard. For the past few months he has been connected with the Labor Advisory Board in Washington. These engagements have delayed the completion of the study of cyclical fluctuations in British imports and exports, which he began while one of our Research Associates. However, he writes that the statistical materials that are to be incorporated in the study have now been analyzed by the National Bureau's technique, and that all he requires to complete the manuscript is 'to find sufficient time to correlate the several parts already written into an integrated whole'.

Another of our special studies in this field is being conducted by Dr. Wassily Leontief who joined the staff of Harvard University after spending the year 1931-32 with us as Research Associate. Dr. Leontief is making a statistical analysis of shifts in demand for and supply of commodities during business cycles. He makes the following report upon his progress:

"The first part of the study contains a discussion of fundamental concepts, especially the relation between the (Marshallian) supply and demand curves and changes in the general equilibrium, the whole system. The next part will contain a detailed description of the statistical technique which is applied in the third part to the empirical analysis of some twenty-five American commodity markets over a period of from seven to thirteen cyclical waves. In the concluding section, I shall sum up the results in a comparative study of cyclical shifts."

Here, too, we may list the study of the relation between agricultural and industrial cycles upon which our new Research Associate, Dr. Eugen Altschul, is engaged. This problem has usually been treated in terms of the effects of fluctuations in harvests upon business conditions. But Dr. Altschul points out that, in so far as farming is conducted on a business basis, it becomes dependent like other industries upon the market for loans, and therefore is affected by cyclical changes in the terms upon which short-time and long-time credits can be obtained. Hence he proposes to study the investment of capital in farming and the losses of agricultural capital in depressions. Specifically, he will examine the extent to which farming has become a capitalistic industry, using purchases of agricultural implements as an index of capital investment and the yield of taxes on farm lands as an (indirect) index of the accumulation or depletion of farm capital.

Meanwhile our staff work upon business cycles has gone steadily forward. The upturn in business activity last spring

gave us hope that we might regard March 1933 as the terminal trough of the American business cycle, which, according to our mode of reckoning, began in January 1928 and reached its peak in July 1929. However, our studies of past cycles taught us that upturns from severe depressions are often short lived, and we did not wish to make elaborate computations on a basis that might prove mistaken. When the volume of activity began to decline again after July, we had further reason for postponing an effort to bring our measurements of American cycles up to date. But a careful study of statistical records convinced us that we were justified in regarding mid-summer of 1932 as marking a cyclical revival in British business. Hence last autumn we increased our staff of computers and began to work up the British data for the years since 1927. If the recently renewed expansion of activity continues in this country, we shall be in a position to make rapid progress with our analysis of the numerous American series. There is fair prospect also that we can soon bring our French and German analysis substantially to date. If events assume this shape, we think that we may complete the statistical work for our next volume upon business cycles before the end of the summer.

This volume will probably be entitled *Business Cycles: Analysis of Cyclical Behavior*. It will aim to show what cyclical behavior is characteristic of various economic processes, taken for the most part one at a time. The processes treated include production by farms, mines and factories; construction work; transportation by land and sea; prices of commodities and transportation; sales of commodities by retailers, wholesalers, manufacturers and farmers; stocks of commodities; foreign trade in merchandise; personal incomes from labor, property and enterprise; profits and losses of business concerns; savings and investments; dealings in securities; aggregate volume of business; interest rates, banking, and money; social concomitants of business cycles. Needless to say, the statistical records of these processes differ widely in quantity and quality, so that our effort to show

what cyclical behavior is characteristic of different economic activities cannot achieve a uniform success. The volume will be thick, for we are analyzing over 600 monthly and quarterly time series, plus a considerable number of series available only in annual form. Our technical methods devised for the task in hand are novel in many respects and will demand some study by readers. But we are trying to explain our procedure clearly, and to present the results concisely, so that the volume may seem readable not only to students of business cycles, but also to the much larger company of men whose fortunes are affected by the cyclical fluctuations of trade.

A rough first draft of this book was completed in 1932. Last year most of this manuscript was rewritten and a start made upon what should be the final draft. To expedite work upon the text, Dr. Arthur F. Burns, who had demonstrated his abilities as an economic analyst during his year as one of our research associates, was re-called to our staff. With Dr. Burns' aid, the investigator in charge will push the preparation of the text as rapidly as possible. But much of his time is taken up by other duties—particularly by his duties as Director of Research. It is highly desirable to include measurements of the latest American, British, French and German cycles, not only to have the book up-to-date, but also to widen the basis upon which our averages rest, especially in the case of the numerous time series established since the World War. That aim makes it impossible to finish the chapters that present results until the current work of the statistical staff has been completed. Hence we cannot now say when the manuscript will be submitted to the Directors.

This volume will be confined for the most part to the analysis of average cyclical behavior and average deviations from it. For many purposes it is necessary to go behind these summary results and study the behavior of different processes during individual cycles. We must do much work of that sort ourselves in preparing the final volume of the

series. If feasible, we should put other investigators in a position to use the unique collection of cyclical measurements we have built up by years of effort. Hence we are considering the possibility of publishing, perhaps by an offset process, the detailed analysis of every series we are using, cycle by cycle. Such a book would contain some text relating to the sources and limitations of the original data, but would be made up mainly of figures. It would appeal strongly, we think, to technical students of business cycles, but to few others. Whether we can afford to render this scientific service to so limited a circle remains to be seen. An appropriate title for the volume would be *Business Cycles: Statistics of Cyclical Behavior*.

The final volume in this series will probably be called *Business Cycles: The Rhythm of Business Activity*. It will endeavor to weave what we already know about business cycles and what we learn from our own work upon the cyclical behavior of different economic processes into a systematic account of the way in which business cycles come about. As soon as our computers have finished their analysis of the latest business cycles in the four countries we are covering, they will begin to summarize the results in the forms called for by the final volume. We hope that the preparation of this report, the ultimate aim of all our studies of cyclical changes, will not take so long as has the preparation of the second volume.

CAPITAL FORMATION

Early last year, at the request of a Committee on Banking and Credit appointed by the Social Science Research Council and presided over by Dr. David Friday, our Executive Committee authorized Dr. Kuznets to undertake a study of the production and disposition of durable commodities in the United States, as one way of measuring the formation of capital. In this study, Dr. Kuznets has been assisted by Mrs. Grace Knott working at the Bureau of the Census in Wash-

ington, and by William H. Shaw in our own office. Many of the pertinent materials had been collected and analyzed by October, and in that month Dr. Kuznets submitted a preliminary set of summary tables to Dr. Friday's Committee. Since then, the statistical work has been nearly finished, and Dr. Kuznets will soon be writing his report. After this report has been considered by the Committee in question, it will probably be submitted to the Directors of the National Bureau as a prospective publication.

We may characterize this investigation as a study of saving and investment in terms of commodities. It should be accompanied by a study of saving and investment in terms of money. That is, the picture that Dr. Kuznets has made of the flow of durable commodities into personal consumption or into uses as capital should be compared with a second picture showing the flow of funds into current expenditure or through the channels of savings into investments made by business enterprises in durable goods. This undertaking is an enticing one; but whether the available data make it feasible is a question that requires careful consideration. Both the Committee of the Social Science Research Council and the National Bureau hope to continue work in the field opened up by the investigation now almost completed. What the next steps should be, and what part (if any) we shall take in the further developments, are matters now under consideration by representatives of the Council and of the National Bureau.

PROFITS OF BUSINESS ENTERPRISES

In 1931 we undertook two investigations into business profits. One developed from a proposal made by the Committee on Recent Economic Changes, and was carried out by Professor Ralph C. Epstein for the Department of Commerce with the cooperation of the Treasury Department. When his work for the Government had been completed, Professor Epstein agreed to write an interpretative study of the move-

ment of profits, as shown by the data that the two Departments with which he worked have published. A grave accident interrupted Professor Epstein's progress, but he sent in his manuscript last autumn. When submitted to the Directors, it aroused keen interest and divergent judgments. Professor Epstein has made revisions in the light of the numerous comments received, and the manuscript will be circulated again.

The second study of profits was made by Professor W. A. Paton on the basis of financial statements obtained through the cooperation of the American Institute of Accountants. While the number of concerns covered by Professor Paton's sample is much smaller than the number at Professor Epstein's disposal, the audited statements cover various matters that are not revealed in the data provided by the publications of the Federal departments. Hence we deem it highly desirable to squeeze all we can from Professor Paton's materials, as a demonstration of the great service that thoroughly adequate samples of auditors' statements would render to men of all professions who wish to gain clearer insight into the workings of economic forces. Mr. George O. May has written a brief preface to Professor Paton's book, and Mr. Fabricant of our staff has been preparing certain supplementary materials which will add to the significance of the manuscript. We expect to submit this interesting report to the Directors in the near future.

BOND YIELDS AND SECURITY PRICES

Before the date of our last annual meeting, Dr. Macaulay had handed in the manuscript of his long-awaited book upon bond yields and security prices. About the time when we planned to mimeograph the manuscript, however, Dr. Macaulay developed certain new ideas so significant that their incorporation seemed imperative. The result has been a complete rewriting of the most important chapter in the book and several notable improvements in other sections.

Formally, we stand with this undertaking where we did a year ago; but we have now a much better manuscript than we had then. We shall send Dr. Macaulay's highly original work to the Directors as soon as mimeographed copies can be prepared.

WAGES

While it is a source of gratification to the National Bureau that the new Federal administration turned to Dr. Leo Wolman for aid in formulating its labor policies, that distinction has deprived us of all but a minor share of his time for several months. Certain plans for reorganization of the labor boards have so increased the demands made upon him since the first of the year that Dr. Wolman has requested a leave of absence from the National Bureau staff until April 1. At that time he plans to resume his interrupted studies of trade-union membership, wages and employment.

During Dr. Wolman's protracted service in Washington, his assistant, Miss Eleanor Frankel, has collected and analyzed all the statistical data required for extending the materials in his volume, *The Growth of American Trade Unions, 1880-1923*, through January 1934; but the report containing the new data cannot be put before the Directors until Dr. Wolman finds time to prepare the text. Miss Frankel has also brought up to date the systematic collection of materials upon changes in wages and hours which Dr. Wolman will utilize in his projected book tentatively called *The American Labor Market*.

PUBLIC WORKS

At the outset of the great depression, the Committee on Recent Economic Changes asked us to make a study of public works as a means of combatting unemployment. Aided by the Department of Commerce, Dr. Wolman assembled all the materials quickly accessible and wrote the useful volume, *Planning and Control of Public Works*, which we published

in 1930. Experience with public works accumulated rapidly and fuller materials became available. When Dr. Arthur D. Gayer was a Research Associate in 1930-31, he continued the work Dr. Wolman had begun. After leaving us to teach at Columbia University, he kept up his investigations and presented the first draft of a much completer treatise than Dr. Wolman had attempted. Revision of this manuscript was delayed by other demands upon Dr. Gayer's time. Meanwhile the ambitious program of the Federal Emergency Administration of Public Works was launched, and a National Planning Board was appointed to devise a more methodical method of advance planning. At the recommendation of that Board, the Public Works Administration has employed Dr. Gayer and a small staff of assistants to complete his study, on the understanding that the National Bureau of Economic Research, whose materials Dr. Gayer is using freely, will be at liberty to publish the report if it so desires. Thus it is probable that next summer the Directors will receive a manuscript dealing with *Public Works and Economic Stabilization*.

MECHANIZATION OF INDUSTRY

Our fellow Director, Dr. Harry Jerome, has completed the revision of his manuscript upon *The Mechanization of Industry*, and Dr. Mills has provided an introductory chapter summarizing the leading results and pointing out their bearings upon economic developments at large. The manuscript has been approved by the Board and will be published next after Dr. Schmidt's book, *German Business Cycles, 1924-1933*. It presents much the most thorough and most temperate treatment that is available anywhere of the direct and indirect ways in which mechanical improvements affect employment.

THE BULLETIN

Dr. Mills, as editor of the *Bulletin*, was successful in carry-

ing through his program of five issues on various aspects of the depression.

- Number 44, January 27:* Industrial Profits in Prosperity and Depression, 1919-1932, by Ralph Epstein
- Number 45, February 20:* Changes in Physical Production, Industrial Productivity and Manufacturing Costs, 1927-1932, by Frederick C. Mills
- Number 46, May 1:* Wages during the Depression, by Leo Wolman
- Number 47, June 30:* Employment during the Depression, by Meredith B. Givens
- Number 48, October 31:* Aspects of Recent Price Movements, by Frederick C. Mills

Because of the difficulties of distributing the *Bulletin* when it appears at irregular intervals and is sent only to those who contribute toward the cost of the National Bureau's scientific work, the Executive Committee has decided to issue at least five numbers a year and to sell them for 25 cents each, or the five for \$1. Under this policy those who are chiefly interested in the succinct statements and reviews of research contained in the *Bulletins* can subscribe to the series or buy individual numbers.

As noted above, the first *Bulletin* for 1934 has already appeared, carrying as its leading feature the estimates of national income in 1929-32 made by Dr. Kuznets under Government auspices. Subjects to be treated in the later issues will be chosen from the following list: Recent Changes in Wages and Hours, by Leo Wolman; Corporate Profits during the Depression, by Solomon Fabricant; Production, by Charles A. Bliss; Technological Unemployment, by Meredith B. Givens; Prices, by F. C. Mills; Business Cycles, by Eugen Altschul, Cicely Applebaum or A. F. Burns.

STATISTICAL RECORDS

The National Bureau's practice of keeping in systematic form the original data used in its various investigations has resulted in the accumulation of a highly valuable collection of statistical records. A small part of these materials is unique, consisting of data that our agents have gathered in the field. Much the greater part consists of figures that we have copied from official documents and similar sources, or obtained from other agencies. While materials of the latter sort can be collected by other investigators, the work is slow and expensive—particularly in the case of time series that must be pieced together from successive issues of some official report or periodical. To have such widely scattered materials assembled in readily usable form greatly facilitates the task of economic research. Every year that passes makes our collection richer. It is an indispensable equipment for our own work and a valuable aid to other investigators working upon problems allied to those which we treat. Requests for access to these records are becoming frequent and we deem it a proper part of our public service to grant such requests whenever they do not interfere with the work of the staff. It is equally part of our public duty to guard this collection against destruction by fire or careless use. From time to time we have cherished hopes of making portions of the collection more widely accessible through publication, and, despite the expense involved in such an undertaking, it may be that we shall be able in the future to render this service.

THE STAFF

Drafts by the Federal Government upon the National Bureau's staff this year are evidence of the high standing achieved by members of our group; but they have interfered sadly with our plans. Dr. Willard L. Thorp has been made Chief of the Bureau of Foreign and Domestic Commerce and has resigned his position with us. Dr. Leo Wolman be-

came a member of the National Labor Board and Chairman of the Labor Advisory Board and, as said above, has asked for leave of absence until next April. Dr. Meredith B. Givens has given most of his time to the Committee on Government Statistics which is rendering useful service in securing a better organization of Federal statistics. Your Director of Research was requested last August to serve as a member of the National Planning Board of the Public Works Administration. Dr. Frederick C. Mills has been called upon for technical advice concerning statistical planning. Dr. Simon Kuznets has been an employee of the Department of Commerce, and Dr. Arthur D. Gayer is now an employee of the P. W. A.; but both of these gentlemen were engaged to work upon projects included in the National Bureau's program.

Two notable additions have been made to the scientific staff. In October, Dr. Arthur F. Burns joined us to aid in preparing our next volume upon business cycles. In November, Dr. Eugen Altschul, formerly Privatdozent at the University of Frankfurt where he distinguished himself as chief of the *Frankfurter Gesellschaft für Konjunkturforschung*, came to us as an Associate. Barely had Dr. Altschul begun his work with us when he was invited by the University of Minnesota to give a course upon money and a seminar upon business cycles during the winter term. And barely had he settled in Minneapolis when the Dean of the School of Commerce requested us to extend his leave of absence from the National Bureau to a year and a half. How best we can combine aid to Dr. Altschul in establishing himself permanently with our interest in the work he was expecting to do with us is under advisement.

This year the staff has made a practice of holding frequent meetings, which have usually been attended by the President of the National Bureau. We shall continue that practice. Mutual criticism of one another's plans in the early stages of our investigations, suggestions concerning materials and methods made when they can be utilized most fully, and a

pooling of ideas about the relative promise of possible extensions of the work in hand make us a better team than we would be if each investigator worked by himself or in consultation only with the Director of Research.

Through the most uncertain months of 1933 the entire staff revealed the same unwavering devotion to their work as in earlier years. The National Bureau owes much to the interest which its clerks and computers, as well as its investigators, take in its varied and exacting labors. To do all that we can toward maintaining this high state of morale is a duty and a pleasure.

FOREIGN AFFILIATIONS

When Dr. Gay was in England, Professor John Jewkes of the Economic Research Section of the University of Manchester approached him with a request for an exchange of information concerning problems and data between the Manchester organization and the National Bureau. Believing that English correspondents devoted to interests like ours may be of service in elucidating technical points regarding the British time series which we use in considerable numbers, and that we may reciprocate with similar help, the Executive Committee authorized the acceptance of Professor Jewkes' suggestion.

It is pleasant to report also that Macmillan and Company of London, in cooperation with the Royal Economic Society, has proposed an arrangement for increasing the sale of our publications in Great Britain and on the Continent, which the Executive Committee has accepted.

III. Planning for the Future

LAST June the National Bureau held a Planning Conference which was attended by seven Directors within easy reach of our office, by the resident members of the staff, by Dr. J. Steele Gow of the Falk Foundation, and by our collaborators, Messrs. Epstein, Givens, Paton, Silverman and Thorp. The purpose was to review our past work and to secure suggestions concerning desirable lines of future development.

It appeared at this conference that all but three of the National Bureau's publications, and that all of our current investigations deal with some aspect of economic changes. One set of studies starts with certain *economic activities*, and shows their significant elements and how they fluctuate through time. Under this head falls our work on national income, prices, production, employment, earnings of labor, profits, bond yields and interest rates, capital formation, migration, the mechanization of industry, trade-union membership, public works, philanthropic contributions and the purchase of medical care. A second set of studies starts with significant *periods* and shows how various economic activities have fluctuated within them. Here belong our two-volume survey of *Recent Economic Changes*, published in 1929, and Dr. Mills' *Economic Tendencies*, published in 1932. A third set of studies starts with recognized *types of fluctuation* and shows how they have manifested themselves in different economic activities. This set includes our work upon business cycles, seasonal variations and secular trends. The three reports which do not fit neatly into the above classification are two studies of the distribution of income by states, and a contribution to statistical technique—Dr. Macaulay's *Smoothing of Time Series*.

Thus the National Bureau has been and is now concentrating upon the study of economic dynamics—if we may use that none-too-happy term. Moreover, almost all the topics suggested at the Planning Conference as desirable future undertakings and listed in our *Bulletin* for June 30 fall in the same field.

The wisdom of continuing to concentrate our efforts upon the study of economic changes is indicated by current historical developments of wide scope. In this country, a Federal administration proclaiming a philosophy of 'rugged individualism' has been succeeded by an administration seeking to secure a 'New Deal' by governmental action. Nor has the United States been first or most radical among the countries that are trying to establish a new scheme of economic organization. Russia led the way with its experiment in Communism; Italy and now Germany are experimenting with the 'totalitarian state'. Even Great Britain has established a most comprehensive scheme of unemployment benefits, given up free trade for a protective tariff, and reverted to a managed currency of inconvertible paper. Presumably there will come reactions against these ambitious attempts to control the evolution of social institutions by conscious planning; but it seems doubtful whether the nations can return within the next generation, if ever, to the pre-War pattern of life.

If we are committed, at least in the near future, to a policy of public control over many economic activities in the hope of increasing common welfare, then the need for a more effective science of economics than we now possess is clear and pressing. All of us as individuals frequently find ourselves applying what we think we know about economics to the advocacy or to the criticism of current proposals. It is our duty as citizens to act thus, relying upon the best of our knowledge and belief. But how often we find our views at variance with those of others who have equal claims to know what is wise! If we are not too excited by controversy, sober second thought suggests that our knowledge is not sufficiently

certain, thorough and extensive to justify full confidence in our opinions.

Frequently the Directors of the National Bureau and men like them are called upon by governmental or private agencies to take part in the more deliberate study of some specific problem and to suggest practical policies for dealing with it. Then we may employ investigators to find the pertinent facts, upon which we base a considered analysis and recommendations for action. That also is admirable, and we do not regret that, as sponsors for the National Bureau, we have aided such proceedings. Yet reflection convinces us that we cannot be sure of finding the proper solution for any economic problem unless we know far more than an investigation of that problem by itself can reveal. So genuinely interdependent are economic processes that we cannot foresee clearly, on the basis of what we now know, how any policies we recommend will really work. Widely diffused and slowly cumulative indirect effects upon forgotten men may prove far more important than the direct effects upon which we reckon.

These considerations have a bearing upon the future program of the National Bureau. They do not mean that we should refuse as an organization to help in finding facts about specific problems, when called upon by those who represent some interest that we respect. Nor do they mean that a citizen should refrain from expressing his views on current problems because he may be mistaken. The more a country tries to solve its problems by taking thought, the more needful is it that intelligent men and organizations of investigators should contribute what in them lies to the framing of decisions. But, while we are all making the best use we can of present knowledge, it is well that some devote themselves to seeking the more general and more precise knowledge of relationships that characterizes science.

That is the endeavor to which the National Bureau has devoted most of its energy. Our studies of national income, its distribution among individuals and its use for satisfying

current wants or for forming capital; of the behavior of prices and their relations to production; of wages, profits, bond yields and interest rates; of migration, the mechanization of industry and employment; of business cycles, seasonal variations and secular trends are all concerned with general features of economic life and all involve an effort to establish relationships among inter-connected processes. ~~These studies do not show how to solve any specific problem of the day; they do not support any school of economic opinion. It is significant that the National Bureau can render service as readily to the proponents of the 'New Deal' as to the champions of 'rugged individualism'.~~ But the knowledge that is being slowly and painfully acquired is of value even today in forming opinions concerning the wise treatment of many current problems, and it is more valuable still as part of the foundation upon which an economic science that treats dynamic problems in a realistic fashion may be built.

What we are best equipped to do in the future is more and better work of the sort we have done in the past. The field of study is wide and will grow wider as our knowledge expands and our techniques improve. The issue of crucial importance before us, at all times, is what parts of this field we shall cultivate with the limited abilities and funds at our disposal. To get aid toward a series of wise decisions, the staff wishes to hold more planning conferences in the future, and it hopes that on the next occasion of that sort all the Directors of the National Bureau can be present.

WESLEY C. MITCHELL,
DIRECTOR OF RESEARCH

February 5, 1934

Publications of the National Bureau of Economic Research, 1921-1934

- 1 INCOME IN THE UNITED STATES
by Wesley C. Mitchell, Willford I. King, Frederick R. Macaulay and
Oswald W. Knauth
Vol. I (1921), A summary of the amount and distribution of in-
come, 1909-19. 152 pp.
- 2 Vol. II (1922), The methods and estimates upon which the results
described in Vol. I are based. 440 pp.
- 3 DISTRIBUTION OF INCOME BY STATES IN 1919 (1922) 30 pp., \$1.30
by Oswald W. Knauth
- 4 BUSINESS CYCLES AND UNEMPLOYMENT (1923) 405 pp.
by the National Bureau staff and 16 collaborators
Results of an investigation made for the President's Conference on
Unemployment.
- 5 EMPLOYMENT, HOURS AND EARNINGS IN PROSPERITY AND DEPRESSION,
UNITED STATES, 1920-22 (1923) 147 pp.
by Willford I. King
Supplements *Business Cycles and Unemployment*.
- 6 THE GROWTH OF AMERICAN TRADE UNIONS, 1880-1923 (1924)
by Leo Wolman 170 pp., \$2.50
- 7 INCOME IN THE VARIOUS STATES; ITS SOURCES AND DISTRIBUTION, 1919,
1920 and 1921 (1925) 306 pp., \$3.50
by Maurice Leven; based upon Dr. King's estimates of the national
totals.
- 8 BUSINESS ANNALS (1926) 380 pp., \$2.50
by Willard L. Thorp
A descriptive summary of business conditions in the United States,
England, France, Germany, Austria, Russia, Sweden, The Nether-
lands, Italy, Argentina, Brazil, Canada, South Africa, Australia,
India, Japan and China for periods from 36 to 136 years, with an
introductory chapter, "Business Cycles as Revealed by Business An-
nals." by Wesley C. Mitchell.

• Out-of-print

- 9 **MIGRATION AND BUSINESS CYCLES (1926)** 256 pp., \$2.50
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- 13 **RECENT ECONOMIC CHANGES (1929)** 2 vols., 950 pp., per set, \$7.50
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