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ANNUAL REPORT  
OF  
THE DIRECTORS OF RESEARCH

February 7, 1927

TO THE BOARD OF DIRECTORS:

A year ago, at the annual meeting of the Board of Directors of the National Bureau of Economic Research, your Directors of Research stated, with a considerable degree of confidence, that five publications of the Bureau might be expected in the course of 1926. They believed that an end had been reached of the dearth of publications which resulted from taking in hand simultaneously a group of major investigations in 1922 upon the completion of the work on Unemployment and Business Cycles - a work in which, at the request of the Unemployment Commission, all the members of the scientific staff had been intensively occupied. This expectation and belief seem to be belied by the visible results of the past year's work of the Bureau. Two publications, Dr. Thorp's BUSINESS ANNALS, with a comprehensive introduction by Professor Mitchell, and Dr. Jerome's MIGRATION AND BUSINESS CYCLES, have been published, but in September and December rather than in the first half of the year. Dr. King's GRADATIONS OF EARNING AND INCOME IN THE UNITED STATES IN 1921 has undergone successive critical revisions. Although the manuscript has been sent out to the directors and has been accepted by them for publication, it must be further revised in the light of suggestions which have come from several of the directors particularly interested in our studies of national income. The manuscript of Professor Mitchell, - BUSINESS CYCLES - THE PROBLEM AND ITS SETTING, the first volume of our treatise on Business Cycles, was sent to the directors before the close of the year. Dr. Macaulay has made substantial progress with his BOND YIELDS AND INTEREST RATES IN THE UNITED STATES SINCE 1857, but the text, though begun, is not yet finished. The three studies last named, announced for completion in 1926, have had to be postponed.

It is clear that the lag in the Bureau's production was still observable in 1926, and that, as is the case with all serious scientific work, it has proved impracticable to match performance exactly to schedule. Such work must necessarily meet the "unexpected difficulties" which constantly attend pioneer efforts whether in engineering, business organization or research. And genuine research in the social sciences as well as in the natural sciences must accustom itself and its supporters to draw occasionally a blank. This was exemplified in the case of the difficult study of Gradations of Wealth. Despite the recognized obstacles, an attempt was made, authorized by the Executive Committee at the recommendation of the Directors of Research, to estimate these gradations, and Dr. King's patience and sagacity were called upon to make the attack. The result demonstrated, to the conviction of the Directors of Research that the existing gaps in our statistical material are too wide to be bridged by scientifically acceptable estimates. We believe that this exploration on the boundary of our knowledge was worth making, but obviously the limited resources of the Bureau, as well as its reputation, forbid too frequent or too daring experimentation.

The delay in publication, baffling to our hopes, and to some extent prejudicial to the Bureau's income from subscriptions, is not to be attributed to any lack of diligence or devotion on the part of the members of the staff. Indeed, the Directors of Research, who are in the position and have the responsibility of knowing most intimately the day-by-day work of the Bureau, take this opportunity to express their appreciation of the unflagging industry and scientific zeal shown by all our fellow-workers in our common undertaking. The solution of the problem of maintaining a fairly steady output of published results is to be found not so much in the setting up of inflexible "due-dates" as in the gradual accumulation of a small but manageable reserve of material ready

or nearly ready for publication, in the judicious intermingling of minor or short-term studies with those of longer term, so that the production may be properly spaced, and in planning ahead for a series of years. In short, it is an organization problem to be worked out to meet the needs on the one side of the book and Bulletin issues of the Bureau, which call for a fair measure of regularity, and on the other side to be adjusted to the undeniable requirements of highly specialized workers of the first professional rank, and of frontier scientific research which, however wisely planned in general, has to answer an unpredictable number of puzzling and often time-consuming detail questions. Larger financial resources, permitting the employment of more specialists and still more computers, desirable as they would be, would not of themselves enable the Bureau to make that nice adjustment of means to ends and ends to means upon which success depends.

Your Directors of Research believe that a sober survey of the work of the Bureau during the past year and of the projects now authorized and undertaken for the work of the next two years will indicate that measurable progress is being made toward the goal of effective organization. The specific ends to be attained and the methods for attainment in each of the projects of research submitted for approval to the Executive Committee are being more carefully defined in advance, and partly in relation to the development of the Bulletin, certain short-term or recurring studies are planned. The volume of production is becoming better spaced and with some accumulating reserve of maturing studies there is a more reliable prospect for an even flow of publications.

The report of progress which follows deals primarily with the investigations which have been continuing since last year's review by the Board of Directors. Certain new projects will be considered more briefly at the end of the report.

I. INCOME STUDIES.

Dr. King's studies of income have been interrupted by the preliminary survey of philanthropic contributions, of which more will be said presently. But under Dr. King's direction, assistants have been laying the foundation for more adequate treatment of certain elements in the national income, such as the value product of retail and wholesale merchants, various classes of corporations, and "unclassified industries". The results will form important elements in the income estimates for the years since 1921, upon which Dr. King is now working. They may also enable him to improve upon certain items in the estimates which he has made for years already covered in our published volumes.

A third fraction of Dr. King's time has been spent in further struggles with that most difficult of all problems in this field, the distribution of incomes among individuals. All the investigators who have attacked this problem from whatever angle have been obliged to confess that they could establish with assurance only conclusions of the broadest type. Detailed estimates, for which there is an eager demand upon the National Bureau, are subject to a wide margin of uncertainty. Despite his broad and intimate knowledge of the sources and his ingenuity, Dr. King has not been able to get results in which he felt high confidence. Other members of the Staff, particularly Dr. Macaulay and Dr. Mills (who cooperated with Dr. King in a detailed review of his materials, methods, and conclusions) shared in the

doubts, as did the Directors of Research. Finally, after two or three painstaking revisions of this inquiry, a manuscript was submitted to the Directors, and approved for publication by a majority. Despite this fact, the Directors of Research raise the question whether it is wise to issue a separate volume upon "Gradations of Income in 1921" at this time. It seems to them better to incorporate the leading results of this investigation in a supplementary chapter of the new report, which Dr. King has in hand, carrying our estimates of income forward from 1921 to 1925.

## II. THE STUDY OF BUSINESS CYCLES.

Great interest has been shown in the appearance of Business Annals, which was published on September 7, 1926. The first edition of 2,000 copies was exhausted by the end of the year, and a new edition is now being distributed. The rather long introduction by Professor Mitchell, interpreting and making statistical use of the descriptive historical material gathered by Dr. Thorp, is, with modifications and additions, to be utilized in Professor Mitchell's forthcoming first volume. The text, which gives in summary form for seventeen countries the significant facts concerning the successive phases of the Business Cycles for as long a period in each country as data were available, was based on Dr. Thorp's critical study of a wide range of sources. It has been greeted both by economists and business men as a highly valuable work of reference, and the suggestions for amendment and enlargement already coming in from those who are using the book signify its acceptance as a tool of research. The Bureau plans to issue in its Bulletin the yearly continuation of the Annals, and at suitable intervals to incorporate these additions and others in a revised edition.

Professor Mitchell has given the major part of his time, during the past year, to the completion of "Business Cycles - The Problem and Its Setting", which has gone to the Directors for their verdict. He, like other members of the staff in submitting their work to the judgment of the Directors, earnestly hopes to receive their critical comments, which will be used in preparing final copy of the manuscript for the printer. He is already at work on the second volume which requires the analysis and synthesis of the mass of statistical data which has been collected by Dr. Thorp. As his assistant in this arduous and delicate task, Dr. Simon Kuznets, the author of a recent monograph on Cyclical Fluctuations in Retail and Wholesale Trade and well trained in economic theory and in modern statistical technique, has been appointed to fill the vacancy made by Dr. Thorp's resignation. Dr. Thorp will continue to give part-time supervision to the collection of statistical series. Even with the most competent technical assistance, the difficulties which Professor Mitchell faces in this second volume are formidable. This book may be ready for submission to the Directors by the end of 1928 and its publication should not be expected until 1929.

It is desirable to call again to the attention of the Directors the collection of statistical material, already mentioned, upon which Dr. Thorp has been working and which will continue under his immediate direction. No comparable gathering of monthly or quarterly statistical series, either in comprehensiveness or in critical handling, has ever been made. It is a great and costly undertaking and its publication, probably in successive sections, will outrun the regular budget resources of the Bureau. Since the first parts of this notable reference book, are likely to be ready for the

press before the end of this year, it will be necessary for the Bureau to obtain special financial aid from those who realize the need of making this really indispensable collection generally accessible.

III. BOND YIELDS AND INTEREST RATES.

During the last year, Dr. Macaulay, indefatigable in perfecting his study of bond yields and interest rates, discovered in the large and rapidly growing collection of business documents which are deposited in the library of the Harvard Graduate School of Business Administration, two important series of price quotations. One of these was a set of original New York Stock Exchange quotations, apparently nowhere else in existence, and some supplementary quotations of high grade railroad bonds listed on the Boston Exchange. These figures made it possible to extend the railroad bond yield indexes back, month by month, from 1859 to January 1 of the important crisis year 1857. The other discovery in the Harvard Library was Martin's long series of manuscript quotations by quarters for New England municipal bonds. The especial value of these figures, once the yield for each bond for each quarter from 1857 to 1914, and the mathematical equations and coefficients of correlation had been calculated, lies in the comparison they afford with the railroad bond yields similarly treated. As Dr. Macaulay had pointed out in his paper published in the March (1926) issue of the Journal of the American Statistical Association, the chief difficulty connected with the index of railroad bond yields was the trend of improving credit. This he corrected by novel and ingenious mathematical methods. But the municipal bond yields he found, as he anticipated, were free from this defect of persistent improvement in credit, and the comparison proved his suggestion to be justified, that if there was an error in his mathematical correction of railroad bond yields, it

lay in the direction of under rather than over correction. Dr. Macaulay was also enabled by a special gift of \$2,000, which he obtained from Mr. Walter Case, to make a new index of railroad stock prices monthly back to 1857 more accurate and complete than any other hitherto constructed. This makes possible a study of the relation of these price movements to the movements in the yields of railroad bonds. In addition to the new material thus operated upon, Dr. Macaulay and his assistants have been doing much experimental work on the subject of secular trends and he has made here, as in other branches of his work, a real advance in statistical methods. But while these investigations open fascinating perspectives to the technician, Dr. Macaulay realizes that the time has come when the Bureau must be enabled to publish his most important results, and he is now preparing both tables and accompanying text. He definitely undertakes to have his volume ready for submission to the Directors not later than June 1, 1927. This would indicate the possibility of publishing this eagerly awaited book before the end of the year.

#### IV. THE LABOR MARKET.

Dr. Wolman has continued the gathering of materials and the sifting of methods essential in making the broadly outlined study of the labor market which was briefly described in the report presented a year ago. In order to provide additional assistance to Dr. Wolman for this highly promising critical study, the Social Science Research Council at the recommendation of the Advisory Committee on Labor Relations has made a grant of \$2,000 to the Bureau. This will facilitate the collection of further statistical data from printed documents and from field investigations, carried on under Dr. Wolman's direction, while he personally will be giving his chief attention to the

preparation of an introductory book, devoted primarily to the critical examination of measures and methods now employed, in the study of the labor market. The principal topics which this book will discuss are (1) the various ways of measuring wage rates and earnings; (2) payroll data and fluctuations in employment; (3) hours; (4) labor cost and output; (5) standards of living; and (6) the status of wage-earners in American industry treated by industries and by geographical areas. Dr. Wolman aims to arrive at preliminary conclusions both as to facts and methods, based on the data already collected, and, subject to the authorization of the Executive Committee, he plans thereafter to develop intensive investigations on the special subjects whose inter-relations he will outline in his introductory volume. This first volume Dr. Wolman hopes to complete before the end of 1927.

#### V. PROBLEMS OF MIGRATION.

The study on Restriction of Immigration and Mechanization of Industry upon which Dr. Jerome was engaged with a force of field workers during the summer and fall of 1925 followed his work on Migration and Business Cycles, which after some considerable delay in the presswork, was published last December. Both of these investigations were undertaken by the Bureau at the request of the Committee on Migration, originally organized by the National Research Council. Later, so far as the relation of the Bureau is concerned, the study has been carried on under the Social Science Research Council and with funds granted by this body. Upon Dr. Jerome's return to academic work at the University of Wisconsin, he has continued his connection with the Bureau on a half-time basis. With his assistants, he has been occupied in analyzing the field schedules already obtained, in supplementary examination of printed material, and in outlining and assembling data for his book on Mechanization of Industry. He spent the summer of 1926 in making field-studies

on mechanical handling devices and on machine producers, the two items of importance where personal interviews and inspections were needed to supplement the data from his field-agents. The tentative draft of the general section of his book has in large part been drawn up. This discusses the effects of restriction upon the supply of labor, upon wage rates, and upon the degree of mechanization. The two final chapters of the general section deal with the present degree of mechanization and the economics of mechanization. Part Two is to give the results and meaning of the field-surveys on materials handling, brick making, foundries, cotton manufacturing (with some other textiles), iron and steel, highways and pavements, building construction, marine and railway terminals, agriculture and the extractive industries, machine producing industries, and briefer notice on some dozen other industries. For this part, the work, according to Dr. Jerome's report, is in varying degrees of advancement. The separate industries, to be written up by June, 1927, are to be submitted each for comment and criticism to selected representatives of the industries described - a highly advisable procedure, but one which is likely to slow up the completion of the report. The Directors of the Bureau are therefore not likely to examine this study until early in 1928.

Last year's report announced the undertaking of another important study, also sponsored by the Migration Committee and approved and financed by the Social Science Research Council. This is a comprehensive study of international migration statistics, collecting and analyzing all the available figures past and present. Professor Willcox, who is conducting this investigation, spent the summer of 1926 in Europe on this work, and has arranged with Cornell University for a year's leave of absence, the first half of the academic years 1926-7, and 1927-8. Two volumes are planned to be published simultaneously. The first, containing the collection of statistical tables,

is being prepared through the agency of the migration section of the International Labour Office at Geneva and its assistant chief, Dr. Ferenczi, but at the expense of the National Bureau. The series of national tables for all countries possessing these statistics, arranged alphabetically by countries, will be followed by a series of international tables with five-year periods. This volume of statistics will contain an historical and technical introduction. The complete manuscript is to be sent from Geneva not later than April 15th, the printing is to be done in the United States, the proof sheets distributed to the various national collaborators for critical comment, and the plates held until Professor Willcox has written the accompanying second volume of interpretive studies. This second volume will contain about twenty chapters written by as many authors, one for each country, which has sent out or received many migrants. These contributed chapters are to deal primarily with the critical interpretation of the respective national figures. Professor Willcox is to examine and analyze the migration statistics of the United States and to sum up the world survey in the concluding general chapters.

The preliminary inspection of the world migration data, since the period of the great geographical discoveries which closed the era of racial divergence, emphasizes at every point the phenomenal influence of European expansion in modern times. The rapid increase of population within Europe, of European stock outside of Europe, of native stocks under the aegis of Europe and not displaced by European stock, as in Egypt and Java, of native stocks imitating Europe as in Japan, and the multiplication of a mixed population/<sup>will</sup> be compared with the stationary or decreasing population /where the influence of Europe has not been potent, as in China and interior Africa. This survey stimulates speculation as to the likelihood of the long continuance of this disproportionate increase of European stocks, as to the

lessening influence of climatic barriers on migration, as to the problems of future racial intermixture, and as to the levelling economic and social effects of the unprecedented modern Volkerwanderung. These questions will doubtless be raised in the general discussion of the material, and while for the most part, such inquiries pass beyond the bounds of adequate statistical evidence, nevertheless they may at certain points open the way to further statistical attack. Dr. Willcox's world survey, a great international cooperative enterprise, embracing the widest possible scope in time and space, and at the same time based on new and detailed archive studies and the painstaking accumulation and criticism of every available statistical fact, is of such magnitude that any estimate now made as to probable date of publication may be wide of the mark. But the collaboration of many experts in all the leading countries, together with the aid of the remarkably effective agency of international statistical cooperation which has been set up at the International Labour Office at Geneva, may make possible the publication of the two volumes in 1929.

#### VI. THE INVESTIGATION OF PRICES.

The general purpose of the price study which Dr. Mills is conducting for the National Bureau is to describe the behavior of commodity prices, individually and collectively. The chief task of the past year has been the development of a number of measures, applied to a large body of price material, to make clear the characteristics of individual commodity prices. The price data utilized have been wholesale commodity prices in the United States from 1890 to 1925. Some of the measures are novel, having been developed to meet the needs of the study. The work on the first phase of the investigation - the characteristics of individual prices - has progressed so nearly to completion, that a number of preliminary conclusions may already be formulated.

These are of such interest, as indicating the possibilities of new light upon the structure of the system of prices, that a summary statement, illustrating the kinds of measurements made by Dr. Mills, and some of his tentative resulting generalizations, appears advisable.

Dr. Mills has studied particularly the following price relations:

(1) Price variability, as measured by the magnitude and frequency of monthly price changes and by the magnitude of year-to-year changes;

(2) Price trends or long-term shifts in price relations, comparing for pre-war years the annual average rates of change in actual prices and purchasing power with the rates of change in other general economic series and in money and real earnings;

(3) Cyclical fluctuations as observed in the timing of individual price movements as compared with changes in a general price index, in the amplitude of their cyclical swings, and in the average sequence of revival and recession measured by deviation in months from the general index of wholesale commodity prices;

(4) Price flexibility, correlating prices and quantities;

(5) Regional differences in price behavior.

In continuation of the preliminary conclusions given last year, based on more general measures of price dispersion and displacement, Dr. Mills, utilizing the above measurements reports:

1. During the period from 1890 to 1913 wholesale commodity prices showed a distinct tendency toward declining variability. Of the 206 commodities studied, 9 showed no change in price variability, 78 increased in variability, and the prices of 119 declined in variability between 1890 and 1913.

During the four years 1922-1925, the variability of wholesale commodity prices was greater than during the years immediately preceding the war. Approximately two-thirds of the commodities studied showed a post-war increase in month-to-month variability.

2. The figures relating to price trends bear upon the debated question as to whether there is a "normal" price relation between commodities and commodity groups, and upon the selection of a base year which is assumed to represent a "normal" price situation. The present evidence shows that what was "normal" in the pre-war price situation was not a set of fixed price differences, but a set of relations which changed at a rather regular rate year by year. To assume that actual prices in any given year stand in a normal relation to each other is to attempt to crystallize a cross-section of a constantly changing situation.

3. Fifty-six out of 209 commodities (26.8% of the total) have preceded the general wholesale price index on the average in the revival of prices after depression. An up-turn in the general index is due in general to price increases in a distinct minority of the commodities included in the index.

4. Seventy-four out of 209 commodities (35.4% of the total) have preceded the general wholesale price index, on the average, in the recession of prices after prosperity. As on revival, the bulk of the commodities lag behind the general index during recession.

5. There are wide differences between individual commodities in the average duration of rise (i.e., the interval between the lowest

price during depression and the highest price during prosperity) expressed as a percentage of the average period of the cycle. For commodities which passed through all ten cycles covered by the data, the range is from 39.2% for one grade of pig iron, to 73.2% for cattle.

Of 150 commodities which passed through at least five cycles the period of rise was less than 50% of the cycle for only 33 (22% of the total). That is, for 78% of the commodities in this group, the price cycle has consisted of a long period of rise and a short period of decline. Of the small group of commodities for which the typical price cycle has consisted of a short period of rise and a somewhat longer period of decline, the most important are pig iron, bar iron, steel billets, copper and petroleum.

6. The consistency of price movements (i. e., the consistency of the sequence in which the prices of different commodities turn) is greater during recession than during revival. A comparison of averages computed from measures of inconsistency relating to the 84 articles which were most sensitive to cycles in general business reveals a significant difference. There is definite evidence here that the price conditions prevailing during recession are more uniform from cycle to cycle than are the price conditions prevailing during revival.

7. There is a relationship between the degree of cyclical variability and the timing of revival and of recession. High variability is coupled with relatively early revival and relatively early recession.

8. There is a significant positive correlation between the time sequence of commodity price changes during revival and the sequence during recession. That is, the sequences of revival and recession in commodity prices are not independent, either when specific cycles are considered or when average dates of turn over a number of cycles are correlated. The forces which tend to make the sequences different are stronger than the forces tending to produce identical sequences, but the latter tendency is clearly present. Although each phase of a price cycle bears the imprint of novel factors, there are definite bonds which tie it to the phase which has preceded it.

The strength of these bonds varies somewhat for the different cyclical phases. Conditions prevailing during a given period of revival appear to exert some influence upon the order of the succeeding period of recession. Conditions prevailing during recession appear to exert a somewhat stronger influence upon the order of recovery during the next revival.

All these statements relate, of course, to the behavior of wholesale price series, not to general economic series.

9. Various international comparisons indicate that during the period 1890-1913 individual commodity prices were considerably more variable in the United States than in France, Germany or Great Britain.

This portion of the general investigation, the nature of which has been suggested by the fragmentary illustrations here given, will form the content of Dr. Mills' first volume of price studies for the National Bureau.

It may reasonably be expected to reach the hands of the Directors about mid-summer, and despite the inconvenience of the season, it is hoped that if the Directors' judgment be favorable, it may also be prompt, so that the book may appear during the fall publishing season.

The next stage of the price investigation, upon which some work has already been done, is the detailed study of the action and interaction of groups of commodities. This will lead finally to an analytic history of price movements in the United States since 1890, with some international comparisons of price movements.

#### VII. PENDING PROJECTS.

Before concluding this presentation of the quantitative economic studies upon which the Bureau's staff is now engaged, the attention of the Directors should be called to the two new undertakings, one of which will come to the Executive Committee for definite authorization. For the other, it has already directed an experimental exploration.

As an outgrowth of Dr. Jerome's mechanization study, we presented to the Social Science Research Council a plan for a study of changes in output per man-hour in various industries, as one of the significant expressions of those changes in industrial productivity which in some quarters are considered as peculiarly marking the present period of economic development in the United States. This project has been approved by the Social Science Research Council and an appropriation voted. It is understood by the Social Science Research Council that this new investigation by Dr. Jerome is to be made under the direction and supervision of the National Bureau, and a preliminary outline of the study proposed, together with the methods to be utilized, will be submitted to the Executive Committee. Dr. Jerome has already

collected some material and has personally made a sample field survey in Milwaukee, which brings out both the considerable difficulties of accurate measurements in this field and the exceptional value of such a detailed study if the cooperation of business executives can be secured. Your Directors of Research have great confidence in Dr. Jerome's qualifications for undertaking such delicate investigations. He combines in exceptional degree the requisite courage and caution with the faculty of organizing field-work; he has both practical sense and technical statistical equipment; and the subject appeals both to the economists, the business men who give and receive pay-envelopes, and the general public.

The second proposal for investigation by the Bureau originated in the growing desire on the part of the managers of Community Chests, now a widely-spread form of philanthropic organization in American communities, and also on the part of some of the Foundations, for some trustworthy estimate of the trend and of the characteristics of charitable giving. The Directors of Research recommended that a preliminary exploration be made to determine approximately what data are available and also to secure some basis for estimating the cost of a wide sampling investigation. The Carnegie Corporation granted to the Bureau the sum of \$7,500. for such a preliminary study, and the Executive Committee of the Bureau authorized the Directors of Research to undertake it. Dr. King, assigned to this task, organized an advisory committee and consulted the persons and agencies in New York and Washington who were most likely to have information as to existing data. It was thereupon determined to use New Haven as a test city. It had one of the oldest Community Chest organizations in the country, and its leaders in such work offered full cooperation. A canvass of all philanthropic and religious organizations in the city is nearly completed by Dr. King's four assistants,

and fuller records than were at the outset expected have been found for receipts and expenditures for each year during the last quarter century. The total amount of charitable giving in this particular sample city can be approximately estimated and the changes both in totals and in the destination can be plotted, but the who and the why of givers and giving is probably beyond the reach of quantitative analysis. This sample study has also furnished a fairly dependable basis for estimating the cost of a wider survey. The main conclusions of the preliminary report recently made by Dr. King are that the full accounts of 58 out of a total listing of 179 philanthropic institutions in New Haven are covered, but reasonably good information is obtainable from over a hundred institutions and these include all but one of the more important organizations. An inspection of the figures already obtained indicates that in the quarter century the expenditures for religious work have little more than doubled, the expenditures for indoor and outdoor relief have been multiplied by 7 and 11 respectively, remedial work for the physically ill by 11, expenditures for education by 20, and those for recreation, which was little developed in 1900, have been increased 400 fold. In general, the philanthropic organizations of this sample community have expended nearly 9 times as much in 1925 as they did in 1900. These figures, however, have not as yet been corrected to allow for the price changes which particularly affect the second half of the period.

It is expected that the final report on philanthropy in New Haven will be submitted to the Carnegie Corporation about March 1, 1927, which will then, in conjunction with the other interested agencies, determine whether or not to grant the sum necessary for a wider sampling survey. The investigation

seems obviously not only of practical importance to the philanthropic organizations, but it also would have value for economic knowledge, and so far as the National Bureau is concerned, it would contribute certain missing elements to our studies of national income and business cycles.

VIII. THE NEWS-BULLETIN.

A brief paragraph should be added to this report regarding the Bulletin of the Bureau and its contents, a subject which was discussed at the last annual meeting. The Bureau has been and will doubtless continue to be dependent for a considerable part of its financial support on the interest taken by a gradually widening circle of subscribers. As a means of keeping in contact with its subscribers and in a dignified but readable manner bringing to public attention the work of the Bureau, the Bulletin has been of great value. But because it contains early information of some of the contents of forthcoming books issued by the Bureau, and has published from time to time such estimates as those of Dr. King on the population of the United States, there have been a number of requests for it, both at home and abroad, by individuals and institutions who desire to file it for reference purposes. The Directors of Research have long planned that as the scientific output of the Bureau grew and the means of the Bureau permitted, the scientific contents and character of the Bulletin might become more emphasized until step by step it gradually could be developed into the recognized scientific organ of the Bureau. As long as the Journal of the American Statistical Association and other economic periodicals are able to satisfy the need for professional publication, it does not seem advisable to extend the scope of the Bulletin more generally to cover the field of our special interest in quantitative studies in economics. It is of course possible that the demand for such a specialized

periodical might ultimately be so intense as to warrant the further transformation of the Bulletin. That does not seem now to be justified. The time has come, however, when the more limited development appears desirable. The staff of the Bureau has given careful consideration to the subject and it is proposed, commencing with the next issue of the Bulletin, to furnish certain ~~current~~ and recurrent tables and brief articles which grow out of the work of the Bureau. Subject to the authorization of the Executive Committee, the next issue of the Bulletin will carry, for example, preliminary estimates of income in the United States to and including 1926. It will also print the first supplement to the Business Annals, in the form of a report on the United States for 1926. Two months later, the material will be at hand to give the 1926 Annals for the seventeen countries, of a piece with the annual reviews in Dr. Thorp's recent book. Dr. King's estimate of population, which has regularly appeared for several years past, will be ready in March. Dr. Mills is preparing a price index on a novel plan which he will submit for consideration in June if it seems desirable, this index (on a monthly basis) can be issued every quarter or oftener. Further possibilities along this line have been discussed and additional matter of this type will be readily forthcoming when and as needed.

In this connection, the consensus of opinion of the staff of the Bureau should be reported, on the distinction between preliminary and tentative estimates, subject to considerable corrections, and the considered estimates issued by the Bureau after due judgment given by the Board of Directors. The book published by the Bureau represent "considered estimates", and should be maintained at the highest attainable level. There is, however, a legitimate public demand for up-to-date figures and, provided the margin of error is not too great and that the provisional nature of the data is fully explained, the

staff believes that the demand can and should be properly met by the "preliminary estimates" and indices which may be issued in the Bulletin.

Respectfully submitted,

EDWIN F. GAY

WESLEY C. MITCHELL  
Directors of Research.