

1929 JAN 16 PM 3 59

NATIONAL BUREAU OF ECONOMIC RESEARCH, INC.

*A non-profit membership corporation for impartial investigations
in the field of Economic, Social and Industrial Science*

474 WEST TWENTY-FOURTH STREET, NEW YORK

Directors by Appointment by other
Representative Organizations

DAVID FRIDAY,
AMERICAN ECONOMIC ASSOCIATION
M. C. RORTY,
AMERICAN STATISTICAL ASSOCIATION
GEORGE E. ROBERTS,
AMERICAN BANKERS ASSOCIATION
HUGH FRAYNE,
AMERICAN FEDERATION OF LABOR
A. W. SHAW,
NATIONAL PUBLISHERS' ASSOCIATION
GRAY SILVER,
AMERICAN FARM BUREAU FEDERATION
LEE GALLOWAY,
AMERICAN MANAGEMENT ASSOCIATION
ROBERT B. WOLF,
AMERICAN ENGINEERING COUNCIL

Directors at Large

T. W. LAMONT H. W. LAIDLER
GEORGE O. MAY GEORGE SOULE
ELWOOD MEAD N. I. STONE
MATTHEW WOLL ALLYN A. YOUNG

Directors by University Appointment

THOMAS S. ADAMS,
YALE UNIVERSITY
JOHN R. COMMONS,
UNIVERSITY OF WISCONSIN
EDWIN F. GAY,
HARVARD UNIVERSITY
WESLEY C. MITCHELL,
COLUMBIA UNIVERSITY
L. C. MARSHALL,
UNIVERSITY OF CHICAGO
JOSEPH H. WILLITS,
UNIVERSITY OF PENNSYLVANIA

OFFICERS

THOMAS S. ADAMS, *President*
H. W. LAIDLER, *Vice-President*
GEORGE E. ROBERTS, *Treasurer*
O. W. KNAUTH, *Recording Secretary*
GEORGE O. MAY, *Chairman of the Board*
EDWIN F. GAY
W. C. MITCHELL } *Directors of Research*
G. R. STAHL, *Executive Secretary*

RESEARCH STAFF

EDWIN F. GAY, *Director*
FREDERICK R. MACAULAY
HARRY JEROME
WILLFORD I. KING
FREDERICK C. MILLS
WALTER F. WILLCOX
WESLEY C. MITCHELL, *Director*
LEO WOLMAN
WILLARD L. THORP

January 16, 1929.

Dear Dr. Day,

On behalf of the National Bureau of Economic Research, I am submitting an application in duplicate for a grant of \$750,000 to be expended over a five year period.

Of course this is the plan which I discussed with you orally some ten days ago. The two documents (an Application, and an explanatory memorandum) give respectively a brief and a relatively full statement of the purposes for which the National Bureau seeks the appropriation. If there is any point which is not made clear, or if you would like further information about any aspect of the National Bureau's affairs, please let me know.

Yours cordially,

Edwin F. Gay.
Edwin F. Gay.

Dr. Edmund E. Day,
Laura Spelman Rockefeller Memorial,
61 Broadway,
New York City.

Application of the National Bureau of Economic Research
to the Rockefeller Foundation.

The accompanying memorandum outlines a proposal for an extension of the activities of the National Bureau of Economic Research, an extension which would involve a considerable enlargement of quarters and the assumption of important new responsibilities on the part of the National Bureau. The new activities would include the administration of a system of research fellowships and scholarships, the establishment and maintenance of a research laboratory, and the prosecution of a comprehensive investigation of factors affecting the level of prices. For the financing of these enterprises an appropriation of \$750,000, to be expended over a five year period, is requested. These funds would cover the costs of the new projects named above, would permit the prosecution on an extended scale of price studies at present under way, and would provide new quarters for the administrative and research staffs of the National Bureau.

In the attached memorandum the new projects are outlined in detail, the present research activities of the National Bureau are summarized, proposed changes in the National Bureau's internal administrative arrangements are described, and the physical and financial requirements of the Bureau under the new program are explained. The following is a brief summary of the memorandum:

Fellowships and scholarships. The objects of the system of fellowships and scholarships are to provide mature research workers in economics with research facilities, and to offer to younger men and women opportunities for research experience under direction. Appointment to a research fellowship of the National Bureau would be designed to facilitate the completion of a piece of research work already under way, or the prosecution of a definite investigation for which preliminary plans had been made. Each research fellowship would yield a stipend of \$3,600 per year, plus the expenses of the trip from the home of the Fellow to New York and return. Research Scholars would be expected to assist in investigations being carried forward by members of the permanent staff of the National Bureau, or by Research Fellows. Each research scholarship would yield a stipend of \$2,000 per year, plus the expenses of the trip from the home of the Scholar to New York and return.

It is proposed that appointment of Fellows and Scholars be made by a committee of six, five to be chosen from among the university representatives on the Board of Directors of the National Bureau, and one to be appointed by the Social Science Research Council. Plans have been made for the appointment of five

Fellows and five Scholars for the first year during which this system is in operation, and for the appointment of seven Fellows and five Scholars each year thereafter.

Research laboratory. It is proposed that a laboratory of quantitative economic research be established by the National Bureau in New York City. Special laboratory and library facilities are essential to effective quantitative research in the social sciences. Adequate statistical records, continuously compiled and efficiently organized are required in such work. Various governmental and private agencies are now publishing such materials, but there is pressing need of an agency in which these statistics may be assembled, checked, authenticated, and indexed with reference to specific research needs.

In its ultimate development this laboratory will include statistical materials and literature bearing on all the research projects of the National Bureau, and, it is hoped, on all important phases of quantitative economics, but in the immediate future it is planned to restrict the laboratory to the assembling of materials in the field of money and prices. It will include source materials on commodity prices, on the quantities of specific commodities produced, marketed and consumed, on wages, and on various monetary and credit series, together with such books, pamphlets and periodical literature as may be required in the conduct of given investigations.

Research projects. A brief account is given in the accompanying memorandum of each of the major research projects of the National Bureau. Only two related projects are directly involved in the present application. One of these is an elaboration of a price study at present under way; the other is a plan for an investigation of factors affecting the purchasing power of money. This money study has been endorsed by the Social Science Research Council.

The price structure. The general objectives of the investigations in the field of commodity prices have been, first, to secure a fuller understanding of the behavior of individual commodity prices, and secondly, to increase our knowledge of the working of the price system, and of the interrelations among the component elements of that system. Preliminary results have been published in The Behavior of Prices. The next major task is the study of commodity groups in the United States and in other countries, with reference to the modes of price behavior characteristic of the various classes of commodities. The final section of the investigation will deal with the interrelations among these groups, viewed as constituent elements of the price system, and with the organization, attributes and functioning of that system as an economic instrument.

Factors affecting the general level of prices. It is proposed to make a systematic study of the working relations between money (taken in its most inclusive sense), volume of trade and prices, and into the effects produced by changes in price levels upon economic activities and social conditions. We believe that recent monetary experience in this and various foreign countries can be made to throw considerable light upon these two problems. On the one hand, the changes in price levels have had extraordinary amplitude, a fact which should facilitate the effort to trace both the causes and the effects in which we are interested. On the other hand, recent experience has been statistically recorded with a degree of completeness and accuracy not attained in previous periods of violent price disturbance.

Although the study of factors affecting the level of prices would be in considerable part an independent enterprise, it is planned to conduct this investigation in close association with the study of price groups and of the price structure. It is believed that a knowledge of the internal structure of the price system, with particular reference to the sensitivity of different elements in that system to changes in factors affecting the purchasing power of money, is essential to a study of the general relations between money and prices.

Physical requirements of the National Bureau under the revised program. The expanded program of activities which is contemplated will involve considerable increase in the space and equipment requirements of the National Bureau. It is believed that new quarters, including about 7000 feet of floor space, should be secured, and that these should be located within reasonable distance of the New York Public Library. The major activities of the National Bureau will be conducted at this center.

Administration. The seat of authority in the National Bureau of Economic Research is the Board of Directors, acting through an Executive Committee. The composition and internal organization of these bodies are outlined in the By-laws of the National Bureau. It is proposed that there be three directors of research, having general charge, under the Executive Committee, of the research work of the National Bureau and of other work directly related thereto. One of the three, to be nominated by the directors of research and confirmed by the Executive Committee, shall be chief spokesman and signatory of documents in cases requiring formal action by the directors of research. One of the directors of research shall be resident supervisor of the continuing scientific work of the research staff.

It is proposed to add to the permanent staff of the National Bureau a supervisor of the research laboratory, and another officer who will be charged with the supervision and coordination of the work of Research Fellows and Scholars, and who will serve as secretary and traveling representative of the committee on fellowships and scholarships. The executive secretary of the National Bureau will perform the functions of controller and director of publications.

Condensed budget:

A. Summary of expenses to be met from the requested appropriation.
Five year Program.

Research fellowships and scholarships	\$300,000
Research laboratory	128,000
Study of price structure (price groups and their interrelations)	80,000
Study of factors affecting the level of prices	200,000
Additional rent (not included in budgets of studies named above)*	42,000
Total, five years	\$750,000

*Total rental charges for the headquarters of the National Bureau are estimated at \$21,000 a year, based upon a requirement of 7000 square feet. The sum of \$105,000, covering these charges for a five year period, has been included in the above budget. Of this total, the amount of \$63,000 has been included in the fellowship, laboratory and price level budgets, while the balance of \$42,000 appears as a separate item.

B. Division, by years, of requested appropriation.

1st year	\$138,400
2nd "	153,400
3rd "	155,400
4th "	155,400
5th "	147,400
Total	\$750,000

Memorandum on the Organization and Work of the
National Bureau of Economic Research.

1. This memorandum deals with changes which are contemplated in the scope and character of the work of the National Bureau of Economic Research. No fundamental alteration in the objectives of the National Bureau is proposed, but it is planned to expand the activities of this Bureau in certain respects.

The major projects in prospect include a plan to extend to selected individuals not on the permanent staff of the National Bureau its physical facilities and the general research opportunities which it offers, and a plan to improve the facilities of the National Bureau by the establishment of a research laboratory and library. This institution is designed partly to forward specific research projects of the National Bureau, partly as an instrument for the use of Fellows and Scholars of the National Bureau and of other research workers. The carrying out of these two projects, together with certain proposed additions to the continuing research work of the National Bureau, will place new demands upon the physical equipment and upon the administrative organization of the National Bureau, and will necessitate some degree of reorganization. In the sections which follow the new projects are described, the continuing enterprises of the National Bureau are summarized, and the administrative and physical requirements of the National Bureau under the proposed new conditions are discussed. The appendices contain an outline of the new research project, and details of the budgetary requirements.

The plans here presented involve the support of a five year program.

2. Fellowships and Scholarships. The National Bureau proposes to establish a system of fellowships and scholarships in economic research. The objects of this system are to provide research facilities and fruitful contacts for mature research workers, and to offer opportunities for research experience, under direction, to younger men.

Research Fellows: Appointment to research fellowships in the National Bureau would be open to men and women of proved ability in economic research. Appointment would be made for one year, with possibility of re-appointment. Such appointment would be designed to facilitate the completion of a piece of research work already under way, or the prosecution of a definite investigation for which preliminary plans had been made. It is not proposed, however, that the opportunities afforded by these appointments be used in the preparation of doctoral dissertations. Investigations by Research Fellows might fall in the field of one of the major research projects of the National Bureau, or might relate to a field of interest not hitherto covered in the work of the National Bureau. It is assumed, however, that the work of Research

Fellows would deal primarily with the quantitative aspects of economic problems, since it is for the purpose of advancing research work of this character that the National Bureau has been established.

It is proposed that reports and monographs containing the results of researches of Fellows be published by the National Bureau, if accepted by the Directors of the Bureau. All expenses of publication would be borne by the National Bureau, and all proceeds from sales would accrue to the National Bureau.

Each research fellowship would yield a stipend of \$3600 per year, plus the expenses of the round trip from the home of the Fellow to New York. It is planned that Fellows be in residence at New York during the terms of the fellowships, but it is recognized that the special needs of specific investigations may require temporary absences from New York.

Research Scholars: Appointment to research scholarships in the National Bureau would be open to persons somewhat less experienced in economic research than those eligible for research fellowships. Research Scholars would be expected to assist in the prosecution of investigations being carried forward by members of the permanent staff of the National Bureau, or by Research Fellows. Although they would be expected to work under supervision, every effort would be made to give Research Scholars fruitful experience in economic research, and to provide them with opportunities for the exercise of initiative in the conduct of their work. Appointment would be made for one year, with possibility of re-appointment.

Each research scholarship would yield a stipend of \$2000 per year, plus the expenses of the round trip from the home of the Scholar to New York. Scholars would be in residence at New York during the terms of the scholarships.

It is proposed that appointment of Research Fellows and Scholars be made by a committee of six. Five of these shall be chosen from the university representatives on the Board of Directors of the National Bureau. The Social Science Research Council will be requested to appoint the sixth member.

In preparing the appended budget plans have been made for the appointment of five Fellows and five Scholars the first year, and for the appointment of seven Fellows and five Scholars each year thereafter. The committee shall have power, however, to alter the number to be appointed in any given year, decisions in this respect to be based upon the funds available from the grant made for this purpose.

3. Research laboratory. It is proposed that a combined laboratory and library designed to facilitate quantitative economic research be established by the National Bureau. This laboratory, in its ultimate development, will include statistical materials and literature bearing on all the research projects of the National Bureau. In the immediate future, however, the chief function of this laboratory will be the assembling of materials in the field of money and prices, for the purpose of facilitating the several price and money studies now under way and contemplated.

Special laboratory and library facilities are essential to the effective prosecution of price research. Adequate statistical records, continuously compiled and efficiently organized, are required in such work. Various governmental and private agencies are now publishing such materials, but there is pressing need of an agency in which these statistics may be assembled and indexed with reference to specific research needs. It is here proposed that there be set up, under auspices which would guarantee the efficiency and accuracy of this work, an agency which would provide continuing and comprehensive records in this field.

The laboratory should be, so far as possible, a self-sufficient organization, equipped to further research work in all parts of the field of prices. The needs of specific research projects will in part determine the character of the material to be assembled, but it is planned that the scope of the laboratory be a broad one. Source material on commodity prices, on the quantities of specific commodities produced, marketed and consumed, on wages, and on various monetary and credit series will be included, together with such books, pamphlets and periodical literature as may be required in the conduct of given investigations. In covering these fields it is proposed that domestic and foreign materials and current and historical data be included. Comprehensive statistical records for the period beginning with the year 1800 will be sought, although chief attention will be given to recent years. The indexing and organization of these materials, with special reference to research needs, will be an important task of the laboratory staff.

It is desirable that the laboratory and library be developed in such a way as to provide a reference center on the subject of prices which will be available to the business community and to economists generally, as well as to facilitate specific research projects.

4. Research projects of the National Bureau. The National Bureau has completed, or has at present under way, studies in the following fields:

National Income. The first investigation conducted by the National Bureau dealt with the amount and distribution of the national income of the United States, and research

in this field has been an important continuing task of the Bureau staff. The findings have appeared in the following volumes:

- Income in the United States, Vol. I (1920)- Mitchell,
Vol. II (1922) King, Macaulay
and Knauth.
Distribution of Income by States in 1919 (1922)-
Oswald W. Knauth
Income in the Various States: Its Sources and Distribution,
1919, 1920, 1921 (1925) - Maurice Leven and W.I. King

The National Bureau's materials in this field furnished the basis for the section on "Profits, Interest and Wages", written by Dr. Morris A. Copeland as a part of the study of Recent Economic Changes.

In a report soon to be published later results of the National Bureau's income studies will be presented.

Business Cycles. A number of related investigations bearing on phases of the general problem of Business Cycles have been carried on by the Bureau staff. The two first publications of the Bureau in this field contained the results of a special investigation conducted at the request of Secretary Hoover, acting as Chairman of the President's Conference on Unemployment (1921). Later volumes are fruits of a comprehensive study still in process. The following volumes have already appeared:

- Business Cycles and Unemployment (1923) - by the Staff
of the Bureau and 16 Collaborators
Employment, Hours and Earnings in Prosperity and
Depression (1923) - W. I. King
Business Annals (1926) - W.L. Thorp and W.C. Mitchell
Migration and Business Cycles (1926) - Harry Jerome
Business Cycles: The Problem and Its Setting (1927) -
Wesley C. Mitchell

A detailed study of the rhythm of business activity is now under way.

The large collection of statistical series gathered by Dr. Thorp in connection with the National Bureau's studies in this field will be published in several volumes in the near future.

Labor Problems. The first of the Bureau's major investigations in this field dealt with the organized labor movement, with particular reference to the growth of membership in trade unions, and to variations in union membership. Upon the completion of this study a general

investigation of the labor market was undertaken, and an introductory volume upon this subject is nearing completion. It is to deal critically with the existing methods of measuring wage rates and earnings, payroll data, and fluctuations in hours, labor cost and output. The results of the first study were published in

Growth of American Trade Unions, 1880-1923 (1924) -
Leo Wolman.

Industrial Mechanization and Labor Output. Other industrial and labor problems are the subjects of related studies dealing with the mechanization of industry and with output per hour. The former is concerned with the relative extent to which the several major industries are now mechanized, and with the tasks of skilled, semi-skilled and unskilled workers in industrial occupations. The objects of the second study are to measure output per man-hour, by years, in major industries, and to secure data relating to changes in plant capacity, in technical equipment, in investment in equipment, and to other changes in industrial organization or manufacturing procedure which might throw light upon observed variations in output. Field work upon these projects is at present under way.

Bond Yields and Interest Rates. The course of interest rates in the United States has been carefully traced, and a mass of relevant material has been studied, in another investigation being conducted by the Bureau's staff. There are now ready for publication data on bond yields, railroad stock prices, and various interest series covering the period 1857-1927, by months, together with the results of a detailed analysis of their fluctuations and of the relations among the various series.

Recent Economic Changes. At the request of a committee appointed by Secretary Hoover the National Bureau, with the aid of associated economists, business men, engineers, and officials, completed within the past year a comprehensive study of recent economic changes. The objects of this investigation have been to survey the main industrial and business developments of the period 1922-1927, to describe and, so far as possible, to explain the characteristic and somewhat exceptional economic features of this period. The results of this study will appear in a volume shortly to be published.

Human Migration. A world-wide survey of human migration, dealing with the mass movements of population from the middle

of the 17th century to the present time, is a project of the National Bureau which is now nearing completion. The Migration Section of the International Labor Office at Geneva, and a number of foreign experts are cooperating with the Bureau in the prosecution of this study. The volume of statistical materials which is now ready for publication will be followed by a volume containing a critical interpretation of the figures and an analysis of the major population movements.

The Price Structure. The general objectives of the investigations in the field of commodity prices have been, first, to secure a fuller understanding of the behavior of individual commodity prices and, secondly, to increase our knowledge of the working of the price system and of the interrelations among the component elements of that system. The work already completed has dealt with certain aspects of price movements in the United States.

The next major task is the study of price groups in the United States and in other industrial countries. It is desired to determine just what groups of commodities possess characteristic modes of behavior, which differ significantly from the behavior of other commodity groups. Since the movements of specific price groups are of immediate interest to economists and to various groups of producers, consumers and business men, it is planned to make the results of certain of the group studies available as they are completed, although the discussion of relations among price groups will be postponed to a final volume. The separate reports would appear in small, non-technical volumes, each dealing with a particular group of commodities or with several closely related groups. The groups to be thus treated would not include all those studied in the general analysis, but would be restricted to commodity groups of general economic interest or of immediate concern to particular industries. The groups to be thus treated in separate volumes will include some of the following, and possibly certain other groups.

- Agricultural and non-agricultural products
- Foods and non-foods
- Producers' goods and consumers' goods
- Raw materials and processed materials.

- Textiles and textile products
- Metals and metal products
- Forest products
- Building materials
- Coal and petroleum and their products
- Live stock, meats and fats
- Hides and skins and their products

In the study of commodities in each of these groups, attention will be paid not only to the movements of group averages but, as well, to the variability of individual prices (and of corresponding quantities produced and consumed), to the cyclical movements of prices and quantities, to pre-war and post-war trends, to the relations between prices and quantities, to industrial and geographical price margins, and to other aspects of price behavior. It is planned to make each study international in scope, including the chief industrial countries of the world. Differences among countries in respect to the behavior of specific commodity groups, as well as differences among commodity groups in a single country, will be investigated.

The final section of the investigation will deal with the interrelations among these groups, viewed as constituent elements of the price system, and with the organization, attributes and functioning of that system as an economic instrument.

Preliminary results of these studies have been published in

The Behavior of Prices (1927) - Frederick C. Mills

5. Research project contemplated: Investigation of factors affecting the general level of prices. It is proposed to make a systematic study of the working relations between money (taken in its most inclusive sense), volume of trade and prices, and into the effects produced by changes in price levels upon economic activities and social conditions. We believe that recent monetary experience in this and various foreign countries can be made to throw considerable light upon these two problems. On the one hand, the changes in price levels have had extraordinary amplitude, a fact which should facilitate the effort to trace both the causes and the effects in which we are interested. On the other hand, recent experience has been statistically recorded with a degree of completeness and accuracy not attained in previous periods of violent price disturbance.

The attached outline (see Appendix) indicates the general scope of the proposed study, and suggests the main problems with which such an investigation would deal. Details have been purposely omitted, for we do not believe that the various parts of this program can be laid out with any approach to finality until a preliminary investigation has been completed.

The chief purpose of the preliminary study would be to explore the field with care, to survey and evaluate the relevant data, and to permit the drawing up of a detailed program for the general investigation. Since it is proposed that the main study

should deal with conditions in a number of countries, the preliminary survey should cover the leading industrial countries of the world. It is believed that the preliminary study and the planning based upon it would be completed within one year.

Although the study of factors affecting the level of prices would be in considerable part an independent enterprise, it is planned to conduct this investigation in close association with the study of price groups and of the price structure. It is believed that a knowledge of the internal structure of the price system with particular reference to the sensitivity of different elements in that system to changes in factors affecting the purchasing power of money, is essential to a study of the general relation between money and prices.

6. Physical requirements of the National Bureau under the revised program. The expanded program of activities which has been outlined above will involve considerable increase in the space and equipment requirements of the Bureau. Since the Bureau will be compelled to seek new quarters in any event, complete new plans are being made. Preliminary estimates of the requirements under the above program are given below:

	Approximate requirements in square feet
Research laboratory and library	2,000
Quarters for Fellows and Scholars	1,200
Study of factors affecting the level of prices	1,000
Other research projects	1,800
Administration	1,000
Total	7,000

It is felt that the new quarters of the National Bureau should be located somewhere in the mid-town section of New York, within reasonable distance of the New York Public Library, and that the major activities of the Bureau should be, so far as possible, conducted at a single center. The headquarters of certain of the investigations, which are being carried on by scholars located in other parts of the country, are necessarily removed from the central headquarters, but it is considered highly desirable that the library and laboratory of the Bureau, the headquarters of the Research Fellows, and the headquarters of as many as possible of the major research projects of the Bureau be under one roof. It is believed that appropriate quarters can be secured at a cost of about three dollars a square foot per year.

The Bureau now has sufficient equipment in the form of filing cases, calculating machines, adding machines, etc. for the carrying on of the research projects now under way, but the adoption

of a system of fellowships and scholarships, the establishment of a research laboratory, and the initiation of a comprehensive study of factors affecting the level of prices will necessitate the purchase of considerable new equipment.

7. Administration. The general affairs of the National Bureau are administered by a Board of Directors composed of representatives of various economic interests, of a number of universities, and of several professional societies. Continuing supervision of the administrative and research work of the Bureau is exercised by an Executive Committee composed of the President, Vice President and five Directors of the National Bureau. Directors of Research, two in number at the present time, are in immediate charge of Bureau activities. Some degree of reorganization of the general administrative system will be required for the carrying through of the proposed new program. (The details of the reorganization, as outlined below, are subject to the approval of the Board of Directors of the National Bureau.)

The seat of authority shall be the Board of Directors, with the composition and internal organization outlined in the present By-laws of the National Bureau of Economic Research. The Executive Committee shall exercise the administrative powers vested in it by the By-laws.

It is proposed that there be three directors of research who shall have general charge, under the direction of the Executive Committee, of the research work of the National Bureau and of other work directly related thereto. The directors of research will normally be members of the Board of Directors of the National Bureau. They will be expected to meet with the Executive Committee, but they will not normally be members of that Committee. One of the three, to be nominated by the directors of research and confirmed by the Executive Committee, shall be chief spokesman and signatory of documents in cases requiring formal action by the directors of research. One of the directors of research shall be resident supervisor of the continuing scientific work of the research staff.

In respect to the details of administration, certain modifications will be required. As at present, each of the major research projects will be in charge of a member of the research staff of the National Bureau. The supervision of the library and laboratory and the new administrative requirements arising out of the fellowship-scholarship system and out of the general expansion of the National Bureau's activities will make necessary two additional officers on the permanent staff of the Bureau. One of these will serve as director of the library and laboratory of price research, and will assist in the prosecution of price studies. The other will have as a chief function the supervision of Research Scholars, and the coordination of the work of Research Fellows and of the directors of individual research projects. He will act

as the secretary of the committee on Fellows and Scholars, and will perform such duties as may be required of him in connection with the selection and appointment of Research Fellows and Research Scholars. He will serve, also, as the representative of the directors of research in the conduct of certain administrative affairs.

The executive secretary will continue to be in charge, under the direction of the Executive Committee, of the general business affairs of the National Bureau and will continue to perform the functions of controller and director of publications.

It is believed that the general method of administration, under a Board of Directors representative of diverse economic and academic interests, is highly appropriate to the functions which the National Bureau has had and will have to perform, and should be retained. The National Bureau has sought to encourage individual initiative and responsibility, and to secure with these the advantages of group discussion in the conduct of its investigations. Individual responsibility and flexible research programs have been considered essential to scholarly and scientific work. In view of the inherent uncertainties attaching to scientific investigations it has been considered unwise to secure a regimented organization or to seek to maintain a rigid research schedule. The changes which are contemplated will require a larger and somewhat more formal organization, but it is the hope of the directors of the Bureau that the closer control of certain activities which this will involve will not impair the flexibility and freedom which are essential to fruitful research. These should be preserved to the staff and Fellows of the Bureau.

8. Relations of the National Bureau to American Universities. The proposed changes will tend to strengthen the close relations between the National Bureau of Economic Research and the universities of the country. The following will be the main points of contact.

- A. Representation of universities on the Board of Directors of the Bureau. At present this Board includes directors appointed by six universities, Chicago, Columbia, Harvard, Pennsylvania, Wisconsin and Yale.
- B. Selection of members of the research staff of the Bureau from university faculties. At present the research staff includes men holding faculty appointments at Harvard, Columbia, Wisconsin, New York University, Cornell, Amherst College, and the New School for Social Research.
- C. Selection of Research Fellows from university faculties. One important purpose of the research fellowships is to provide to men on university faculties opportunities to secure relief from teaching duties for periods of one or several years, and to furnish these men with adequate facilities for economic research. The research scholar-

ships will offer to younger men and women who may look forward to academic careers opportunities for experience in research.

D. Utilization by research workers in the various universities of the facilities of the laboratory of economic research.

The establishment of close and intimate relations with the universities of the country has been one of the objectives of the National Bureau from the date of its foundation, for this association facilitates that cooperation among individual investigators which is essential to fruitful economic research.

9. General Budget, National Bureau of Economic Research. There is here presented, in summary form, a tentative budget covering the estimated expenses of the program outlined above. The expenses of studies now under way (other than the price study) and general administrative and overhead charges (other than rent) are included as a single item in Section A below. This figure (\$75,000) covers the expense of the studies of business cycles, wages, national income and interest rates, which are now financed directly by the National Bureau. (It does not include the expenses of several enterprises which are being conducted under the general control of the National Bureau, but which are independently financed.) Since it is proposed that the National Bureau meet the expenses of these continuing studies and various administrative and overhead costs (other than rent) from funds already in sight, this item does not appear in Section C showing the estimated cost of the five-year program. It is this five-year program which is presented for the consideration of the Rockefeller Foundation.

A. Summary of estimated expenses of the National Bureau of Economic Research, 1929 (or first full year of operation under revised program).

This summary includes old and new projects.

1. Research fellowships and scholarships*	\$58,000
2. Library and laboratory of price research*	36,000
3. Study of price structure	16,000
4. Study of factors affecting the level of prices*	20,000
5. Rent not included under above studies	8,400
6. Other research projects and general administrative expenses of the Bureau	<u>75,000</u>
Total	\$213,400

*Including rent, equipment and certain supervisory expenses. For these three major projects an attempt has been made to include in the estimated budget of expenses items covering overhead charges. Even for these projects, however, contributions of time by the directors of research and by the administrative and general research staff of the Bureau are inadequately represented in the budget.

B. Summary of estimated receipts, 1929 (or first full year under revised program)

Subscriptions	\$30,000
Funds from Economic Foundation (Rockefeller Foundation)	25,000
Gross sales of books*	12,500
Supervisory fees and miscellaneous	1,500
Surplus from 1928	<u>6,000</u>
	\$75,000
Appropriation requested	<u>138,400</u>
Total	\$213,400

*Publishing costs are included in the item of \$75,000, representing general administrative expenses of the Bureau.

C. Summary of expenses to be met from the requested appropriation.
Five-year Program

Research fellowships and scholarships	\$300,000
Research laboratory	128,000
Study of price structure (price groups and their interrelations)	80,000
Study of factors affecting the level of prices	200,000
Additional rent (not included in budgets of studies named above)*	<u>42,000</u>
Total, five years	\$750,000

*Total rental charges for the headquarters of the Bureau are estimated at \$21,000 a year, based upon a requirement of 7,000 square feet. The sum of \$105,000, covering these charges for a five year period, has been included in the above budget. Of this total, the amount of \$63,000 has been included in the fellowship, laboratory and price level budgets, while the balance of \$42,000 appears as a separate item.

D. Division, by years, of requested appropriation

1st year	\$138,400
2nd "	153,400
3rd "	155,400
4th "	155,400
5th "	<u>147,400</u>
Total	\$750,000

In preparing the general budget and the detailed budgets for individual projects, provision has been made for contributions to annuity policies to be available, on a participating basis, to permanent members of the research and administrative staffs of the Bureau. Funds for this purpose have been included under the heading "contingencies". Contributions by the National Bureau will be limited, in any given year, to five per cent of the annual salaries of the individuals desiring such policies.

The details of the several budgets are given in Appendix B.

APPENDIX A

Preliminary Outline of an Investigation of Factors Affecting the General Level of Prices

- A. The nature of price instability; economic and social effects of price instability.
- B. The measurement of changes in the purchasing power of money.
 - 1. Survey, by countries, of index numbers of wholesale and retail prices, living costs, wages, etc.
 - 2. Comparison of different elements in the price system in respect to their sensitivity to disturbing factors: character and amplitude of the fluctuations of different price groups.
 - 3. The concept of a 'general level of prices' and the problem of measuring changes in this 'general level'.

(The National Bureau of Economic Research has now under way a detailed analysis of price groups. This study of the elements of the price system will bear directly upon the problem of measuring changes in the purchasing power of money. The two investigations will be conducted in close association.)

- C. The measurement of changes in the physical volume of production and in the volume of trade.

A study of the transactions requiring the transfer of coin, paper money or deposit currency, and of those involving book credits. An attempt will be made to measure secular changes and cyclical fluctuations in these factors, in the chief industrial countries of the world. Interest will attach to long-term and periodic changes in the demand for gold, and for the other elements in the circulating medium.

- D. Analysis of the media of exchange.
 - 1. The supply of gold and silver, and the volume of metallic money.
 - a. The production of gold and silver. The influence of improvements in technical methods of extraction.
 - b. Velocities of circulation, and changes in these velocities under varying conditions and in different countries.

2. The supply of government paper money.

- a. Redeemable currencies. Velocity of circulation under different conditions. Relation between supply and velocity.
- b. Irredeemable currencies. Velocity of circulation under different conditions. Relation between supply and velocity.

3. Bank credit

- a. The bases of bank credits. Changing conditions surrounding the extension of credit.
- b. Supplies and velocities of circulation, by countries, under varying conditions. The influence of changing business methods on the supply and velocity of circulation of bank notes and deposit currency. Investigation of the relation between supply and velocity.
- c. Relation between the supply of bank credit and the supply of gold. Gold in circulation, gold in bank reserves, and total gold supply, in their relation to bank credit. Mechanism of the relation between gold and credit.

E. Book credits

Average duration of book credits in the chief lines of wholesale and retail trade.

Relation of book credits to the demand for and the movement of goods.

Relation of book credits to bank credits.

F. The relations between money and credit, volume of trade and the price level.

An attempt to determine the interrelations among the factors enumerated in the preceding sections of this outline. In attacking this central problem use will be made of data drawn from various countries and from different periods. Conditions prevailing under a gold standard will be distinguished from conditions prevailing under an independent paper standard; conditions during inflation will be distinguished from conditions during deflation. In studying periods during which

paper standards prevail account will be taken, if possible, of the influence of speed of inflation and probability of redemption upon the relations between the factors mentioned.

In this study attention will be given to the incidence of changes in the gold supply, in the volume of paper currency and in the volume of bank credit, and to the channels along which the influence of a change in each factor is exerted. Time lags in the relations between the factors in the equation of exchange will be investigated, and the possibility of secular and cyclical changes in the relations between money, credit, trade and prices will be explored. The effects of changes in business and banking practices upon the elements in the present problem will be studied.

In the consideration of these relations, factors such as discount and interest rates and the volume of governmental and private borrowing, which are not enumerated above, will be taken into account.

G. International price relations.

1. Gold movements, trade balances, and international price levels.
2. Exchange rates, in relation to gold movements, price levels and interest rates (under gold standard and under independent paper standard).

H. The problem of price stabilization.

The bearing of the present study upon the practical problem of price stabilization, and upon various proposals for achieving stabilization, will receive such attention as is consistent with the general research policies of the National Bureau of Economic Research.

It is planned that the staff employed in the conduct of this investigation include a general director, two chief assistants, one of whom would be in charge of the work in foreign fields, and clerical and statistical helpers varying in number from 4 to 10 or 12. The first year would be largely devoted to the preliminary investigation and to the laying of plans for the general study. It is hoped that the major part of the compilation of data and of the statistical analysis will have been completed by the end of the fourth year. Most of the fifth year would then be given to the writing and publication of the final report. In estimating

publishing costs, tentative plans for a two volume study have been made.

Although the conduct of the study will be in the hands of the group of research workers mentioned above, it is proposed that an advisory staff, composed of the directors of research and other members of the staff of the National Bureau, with the occasional assistance of other economists and statisticians, should cooperate in the planning and general prosecution of the investigation. The funds set aside in the budget for supervisory expenses are meant to cover the cost of this cooperation.

It is not possible, at this time, to prepare a detailed budget, which might be followed without variation. The tentative division of the budget, by years, which is given in Appendix B, is subject to modification as the investigation proceeds.

APPENDIX B

Detailed Budgets

1. Budget of Project Relating to Research Fellows and Scholars

	First year	Each of four succeeding years	Total, five years
Salaries and expenses of Fellows*	\$20,000	\$28,000	\$132,000
(Salary per fellow per year \$3600 Traveling expenses 400 Total \$4000)			
Salaries and expenses of Scholars**	12,000	12,000	60,000
(Salary per scholar per year \$2000 Traveling expenses 400 Total \$2400)			
Equipment and supplies	6,000	500	8,000
Clerical and stenographic help	2,000	2,000	10,000
Statistical assistance for Fellows	4,000	4,000	20,000
Expenses of committee on Fellows and Scholars	1,000	1,000	5,000
Traveling expenses, sec- retary of committee	1,000	1,000	5,000
Supervision, coordination and general undistributed expenses	7,000	7,000	35,000
Rent	3,600	3,600	18,000
Contingencies	1,400	1,400	7,000
Totals	\$58,000	\$60,500	\$300,000

*It is planned that five Fellows be appointed the first year, and that seven be appointed in each succeeding year.

** It is planned that five Scholars be appointed each year.

2. Budget, Laboratory and Library of Economic Research

	First year	Each of four succeeding years	Total, five years
Equipment, supplies, books and periodicals	\$16,000	\$3,000	\$28,000
Salary, supervisor*	6,000	6,000	30,000
Salaries, library assistants	6,000	6,000	30,000
Rent	6,000	6,000	30,000
Other undistributed expenses and contingencies	<u>2,000</u>	<u>2,000</u>	<u>10,000</u>
Totals	\$36,000	\$23,000	\$128,000

*The supervisor would be the administrative head of the laboratory, and would assist in the conduct of the price studies.

3. Budget, Study of the Structure of Prices (Price Groups
and their Interrelations)

	Annual expenses	Total, five years
Salary of director of study	\$7,000	\$35,000
Salaries of assistants(4)	7,500	37,500
Rent*		
Equipment and supplies	500	2,500
Contingencies	<u>1,000</u>	<u>5,000</u>
Total	\$16,000	\$80,000

*This item is included in the general rental charge for the National Bureau.

4. Budget, Study of Factors Affecting the Level of Prices

a. Salaries by years

	1st year	2nd year	3rd year	4th year	5th year	Total, five years
Direction*	3,500	3,500	3,500	3,500	3,500	17,500
Supervisor, foreign work		6,000	6,000	6,000	6,000	24,000
Chief assistant, U.S.	5,000	5,000	5,000	5,000	5,000	25,000
Clerical and statistical help	4,000	10,000	15,000	15,000	8,000	52,000
	12,500	24,500	29,500	29,500	22,500	118,500

b. Tentative division of total budget, by years

	1st year	2nd year	3rd year	4th year	5th year	Total five years
Salaries	12,500	24,500	29,500	29,500	22,500	118,500
Foreign assistance**	---	5,000	5,000	5,000	---	15,000
Overhead***	1,500	5,000	5,000	5,000	4,000	20,500
Equipment and supplies	2,000	2,000	2,000	1,000	1,000	8,000
Traveling expenses	---	5,000	2,000	3,000	---	10,000
Supervisory expenses	2,000	2,000	2,000	2,000	2,000	10,000
Publication	---	---	---	---	8,000	8,000
Contingencies	2,000	2,000	2,000	2,000	2,000	10,000
Totals	20,000	45,500	47,500	47,500	39,500	200,000

*It is at present proposed that the price structure and price level studies be jointly directed. The details remain to be adjusted, but in the meantime the full salary of the director has been carried under the price structure study. The sum entered as cost of direction under the price level study would be used to provide such assistance as might be necessary in the conduct of the double enterprise.

**This item is meant to cover the expenses of special work done abroad, by persons not on the staff of the National Bureau.

***This includes rent for American and foreign headquarters, and certain undistributed expenses. It is estimated that the charge for space required at Bureau headquarters will average \$3,000 a year, though the first year's charge will fall below this figure.

5. Combined Budget of Enterprises Projected on a Five-Year Basis*

1st year	\$138,400
2nd year	153,400
3rd year	155,400
4th year	155,400
5th year	<u>147,400</u>
Total	\$750,000

*This includes the budgets for the fellowship-scholarship project, the library and laboratory of price research, the study of the structure of prices, and the study of factors affecting the level of prices. The details of these budgets are given in the four preceding section of this appendix. There is added an item of \$8,400 a year, representing rental charges not included in the budgets just named. With this addition, the present budget includes all rental charges for the Bureau as a whole.