

as yet been corrected to allow for the price changes which particularly affect the second half of the period.

Ever since 1900, the date when the study begins, the proportional rate of growth in the contributions to social agencies has been materially greater than the corresponding rate of growth in the receipts of religious organizations. The fact should be noted in this connection that the number of social organizations included in the totals here presented increased from 41 to 90 during the quarter century, while the number of religious organizations increased from 79 to 95.

Moderate Decline in Religious Income Since 1923

The income of religious organizations rose along a relatively smooth trend from 1904 to 1923. Since that date, there has been a moderate decline. The smooth trend of the receipts of religious organizations is in striking contrast to the rugged line recording the receipts of social agencies. In the latter field, there are marked crests in 1902, 1904, 1910, 1914, 1918, and 1923 and depressions in 1903, 1907, 1912, 1916, 1920, and 1924. The waves average, therefore, slightly more than four years in length. While they appear to be correlated to some extent with the course of general business, the exact relationship is not easily determined.

This preliminary survey has been in charge of Dr. Willford I. King and has employed the time of two workers for six months and two additional assistants for three months.

Directors Nominated By Universities Join Bureau

Six directors in a new class designated as Directors-by-University Appointment were elected at the annual meeting of the National Bureau of Economic Research, on February 7, 1927.

In four cases the appointments represent transfers from directorships-at-large. The two new directors are Dean L. C. Marshall and Dr. Joseph H. Willits, nominated by the University of Chicago and the University of Pennsylvania, respectively. The four directors transferred—Dr. T. S. Adams, Dr. John R. Commons, Dr. Edwin F. Gay, and Dr. Wesley C. Mitchell, were nominated respectively by the following universities—Yale, Wisconsin, Harvard and Columbia.

"This change of our form of organization," said President George O. May, in his annual report, "will undoubtedly strengthen our Board, extend our contacts with the universities, and tend to prevent duplication of effort in the field in which we are engaged."

Outgoing directors in the other classes, whose terms had expired, were re-elected as follows: Messrs. George O. May, George Soule, and Elwood Mead were unanimously re-elected Directors-at-Large. The renomination of Mr. A. W. Shaw by the National Publishers' Association was accepted and he was re-elected.

All the present officers were re-elected.

Publications of the National Bureau of Economic Research

MIGRATION AND BUSINESS CYCLES

First report of a new series of studies dealing with the effects of immigration and emigration upon the economic life of the United States. Size 9x6 inches. 250 pages. Cloth. \$3.50 postpaid.

BUSINESS ANNALS

A descriptive summary of business conditions, year by year, in the United States, England, France, Germany, Austria, Russia, Sweden, Netherlands, Italy, Argentina, Brazil, Canada, South Africa, Australia, India, Japan, China, for periods of 36 to 136 years, with an introduction *Business Cycles as Revealed by Business Annals*. Size 9x6 inches. 380 pages. Cloth. (Second printing) \$4 postpaid.

INCOME IN THE VARIOUS STATES ITS SOURCES AND DISTRIBUTION, 1919, 1920 and 1921

This volume gives the total and per capita income carefully adjusted for every state, with special tables showing the incomes of farmers, wage earners, persons of large means, and other matter relevant to the purchasing power and economic conditions of the different parts of the country. Size 9x6 inches, 306 pages, 17 maps and charts, 67 tables, indexed. Bound in cloth. \$5 postpaid.

THE GROWTH OF AMERICAN TRADE UNIONS, 1880-1923

Results of a comprehensive investigation of trade union membership year by year; its fluctuations with the business cycle; effects of World War conditions; women in trade unions. Contains also a detailed analysis of the total working population. Size 9x6 inches, 170 pages, illustrated with 27 tables, 16 charts, and indexed. Bound in cloth. \$3 postpaid.

EMPLOYMENT, HOURS, AND EARNINGS IN PROSPERITY AND DEPRESSION

Results of an inquiry conducted by the National Bureau of Economic Research, with the help of the U. S. Bureau of Markets and Crop Estimates and the Bureau of the Census, for the President's Conference on Unemployment. Designed to meet the special needs of all persons interested in the study of labor conditions. Gives full details of investigation summarized in *Business Cycles and Unemployment* to which it is companion volume. Size 9x6 inches, 147 pages, illustrated with 75 tables, 11 charts, and indexed. Bound in cloth. (Out of print.)

BUSINESS CYCLES AND UNEMPLOYMENT

Results of an investigation made for the President's Conference on Unemployment. By the staff of the Bureau with 16 collaborators. Twenty-one topics covered. This report summarizes the known facts of unemployment and describes the various methods suggested to control the business cycle and alleviate cyclical unemployment. Size 9x6 inches, 405 pages, with 56 tables, 56 charts, and indexed. Bound in cloth. \$4.10 postpaid.

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DISTRIBUTION OF INCOME BY STATES IN 1919

A study of the share of each state in the national income with a special analysis of the amount and relative importance of farmers' income. Size 9¼x6¼ inches, 32 pages, with preface and 9 tables. Bound in cloth. (Out of print.)

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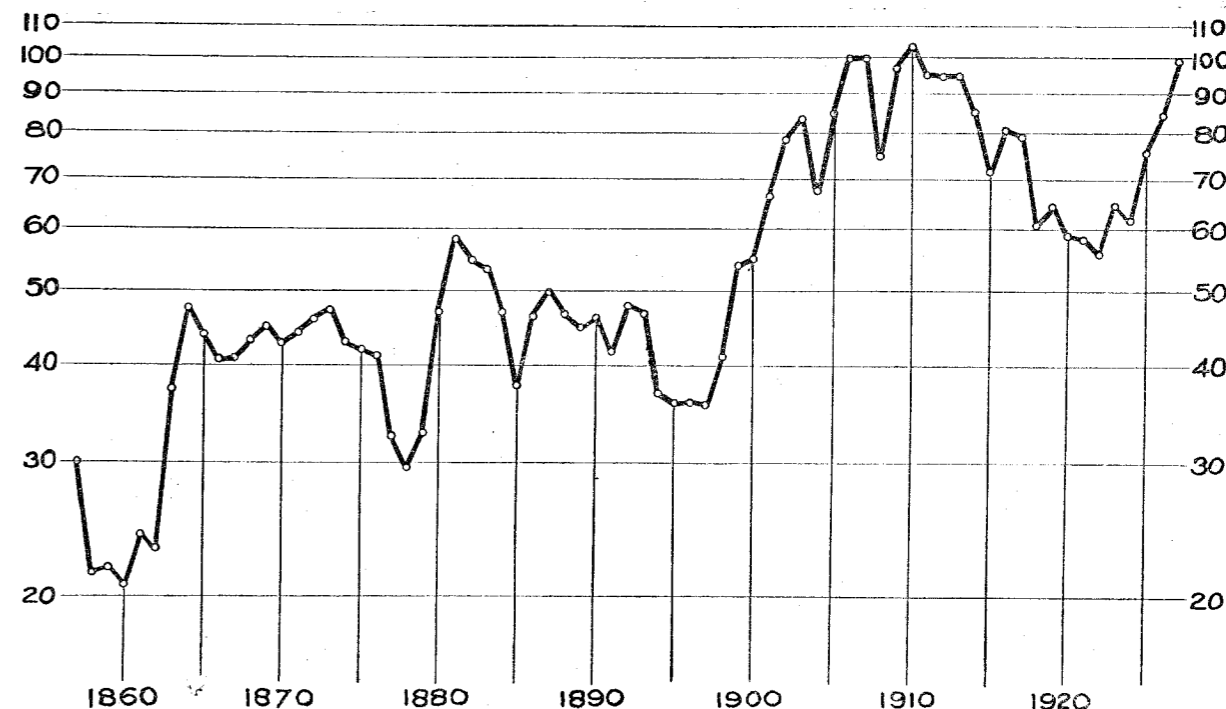
No. 24

474 West 24th Street, New York City

March 30, 1927

Weighted Index Number of Railroad Stock Prices in the United States 1857 - 1927

(January of each year)



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THREE great cycles in railroad stock prices since 1857 appear in a new index just completed by Dr. Fred R. Macaulay of the staff of the National Bureau of Economic Research, authorized for publication today by the Bureau's Executive Committee. This index is part of a comprehensive investigation of the movements of interest rates, bond yields, and security prices since 1857, upon which Dr. Macaulay has been engaged since 1923.

The first wave extends from 1860 to 1878, the second from 1878 to 1897, and the third from 1897 to 1922. Since the autumn of 1921 there has been a great rise resembling somewhat the upward movement which began in 1897.

Index Rises 233 Per cent in 70 Years

In issuing the new index the Bureau emphasizes

the fact that, except for relatively short periods, it cannot be compared directly with the ordinary indices of railroad stock prices. The reason for this difference lies in the allowances made for stock dividends and issues of rights. The new index has been made up on the assumption that the owner of railroad stocks will treat all cash dividends as current income, but will retain all stock dividends and will invest the proceeds of the sale of all rights in new stock at the then current market price.

On this basis the index shows that an investment of \$30 in a typical group of railroad stocks at their market price in January, 1857, with reinvestments each succeeding January in similar typical railroad stocks would have grown to a market value of \$100 by January, 1927.

NATIONAL BUREAU
OF ECONOMIC RESEARCH, INC.

THE National Bureau of Economic Research, Incorporated, was organized in 1920 in response to a growing demand for exact and impartial determinations of the facts bearing upon economic, social, and industrial problems.

The Bureau seeks not merely to determine facts, but to determine them under such auspices as shall make its findings carry conviction to Liberals and Conservatives alike. It deals only with topics of national importance which are susceptible of quantitative treatment.

By issuing its findings in the form of fact reports, entirely divorced from propaganda, the Bureau hopes to aid all thoughtful men, however divergent their views of public policy, to base their discussions upon objective knowledge as distinguished from subjective opinion.

No report of the Research staff may be published without the approval of the Board of Directors. Rigid provisions guard the Bureau from becoming a source of profit to its members, directors or officers, and from becoming an agency for propaganda.

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This increase in the total value of the holdings would represent the increase in market value of the individual shares, combined with the increase in the number of shares resulting from stock dividends and the reinvestment of the proceeds of the sale of rights.

The index number released today is for Januaries only. However, an index number covering all months will be published in a regular Bureau report now in preparation. For almost the whole period it will give the first adequate picture of the history of the railroad stock market which has yet been drawn.

Adjustments Made for Stock Dividends

Technically, the railroad stock index number is a chain aggregate of actual prices. The price of each stock has been weighted each year by the number of shares outstanding. A chain index number of this particular type is free from any purely mathematical "drift". Adjustments, as previously indicated, have been made for stock dividends and for other increases in holdings resulting from an assumed reinvestment of the proceeds of the sale of rights. The number of stocks used is in no year less than 27; in one year as many as 59 different stocks were used. Only common stocks have been included.

In his preliminary statement accompanying his railroad stock index, Dr. Macaulay says in part: "Weighting each stock by the number of shares outstanding means that year by year we have an index number showing the percentage change in the total value of all the stock outstanding of all the companies whose stocks were used in that year. Moreover, as throughout the period a very large percentage of all the railroad stock outstanding in the whole country appears in the index number, that index number probably gives a very fair picture of the percentage changes in the value of the outstanding stock issues of the whole railroad system of the United States.

Upward Trend 1½ Per cent per Annum

"The reader naturally looks at such a chart with curiosity as to trend and cyclical movements. A straight line fitted to the data for the period under discussion would show an upward trend of about 1½ per cent per annum. The cyclical characteristics of the chart will be, possibly, a surprise to some of our readers. The length of the three major cycles and the upward movement of the long-time trends raise interesting questions about how far the present upward movement—beginning in 1921—will go before it turns.

"These great cycles in railroad stock prices contrast sharply with the course of industrial stock prices during the last quarter century, the period in which industrial stocks have been such a prominent feature in American markets. The chief type of fluctuation in industrial stocks during the last 25 years has been one characterized by a much shorter cycle of, say, 3 to 4 years. While our railroad index shows evidence of much shorter cycles, their amplitude is very small when compared with the amplitude of the three major cycles. The railroad stock picture is dominated by these larger cycles."

Remarkable Increase In
Giving Shown By Study Of
Philanthropy In New Haven

AT the request of the Carnegie Corporation, the National Bureau of Economic Research undertook, in the early summer of 1926, a survey, the purpose of which was to ascertain whether or not it is feasible to estimate the approximate extent of philanthropic activity in the United States during the last quarter century.

Trends in Charity

The scope of the study includes not only an inquiry into the total amount of money contributed, but also an effort to find what has been done with the money donated by charitably inclined individuals.

Stress has been laid on ascertaining the nature of trends in this field: for example, to discover whether per-capita contributions have increased or diminished with the passage of time; whether there is a tendency for some types of philanthropy to usurp the places formerly held by other types; and just which are the growing fields and which are becoming relatively less important.

Test City Selected

The only method of investigation that appeared to be at all feasible was to canvass thoroughly the records of all of those organizations in a given area which have been engaged in religious or philanthropic work. In consultation with a representative Advisory Committee, it was decided to use New Haven as a test city.

The reason for selecting New Haven was that it possessed a well-managed Community Chest, which since its inauguration in 1921, induced the leading social organizations to adopt satisfactory methods of accounting. Furthermore, Mr. John B. Dawson, the Executive Secretary of that organization, promised full support to the investigation.

Covers Quarter Century

An effort was made to obtain as complete data as possible for each year from 1900 to 1925, inclusive. Some information was secured from 111 organizations engaged in social work and from 123 religious institutions, including both churches and synagogues. Only 4 organizations refused to give any information whatever, but there were in all about a dozen from which no data were secured. As one would naturally expect, in numerous instances, the accounts were sadly deficient, and, as a result, many of the items had to be filled in on the basis of very scanty information.

In general, the estimates for total receipts and total expenditures are more accurate than the apportionment of these totals among the various items. The completeness of the canvass is roughly indicated by the following table.

T A B L E I
APPROXIMATE RECORD OF SUCCESS OF STUDY AS
MEASURED BY NUMBERS OF PHILANTHROPIC
ORGANIZATIONS IN DIFFERENT GRADES

Kind of Record Obtained	TOTAL	RELIGIOUS		SOCIAL	
		Private	Public	Private	Public
Good	149	80	62	7	7
Fair	52	31	20	1	1
Scattering Data..	33	12	21	0	0
No Information..	11	3	8*	0	0
Total Number...	245	126	111	8	8

* Mostly very small receipts

Fortunately among the organizations furnishing rather complete reports are included most of those institutions collecting considerable sums of money. A few large Catholic Churches are the chief exceptions to this rule. In the great majority of cases, the officers of the various organizations canvassed did their best to make the inquiry a success.

Preliminary totals for some 185 organizations show a remarkable growth in receipts during the quarter century, as will be seen by the following table. The 99 religious organizations covered took in three times as much money in 1923, their most prosperous year, as the 79 organizations then existing did in 1900. The 90 social agencies reporting in 1925 received more than ten times as many dollars as did the 41 for which information covering the year 1900 was secured.

T A B L E I I
PRELIMINARY ESTIMATE OF THE TOTAL ORDINARY
RECEIPTS OF 185 ORGANIZATIONS

Year	Number	TOTAL Receipts	RELIGIOUS ORGANIZATIONS		OTHER ORGANIZATIONS	
			Number	Receipts	Number	Receipts
1900	120	908,409	79	499,877	41	408,532
1901	123	1,268,555	81	733,897	42	534,658
1902	126	1,268,718	82	474,636	44	794,082
1903	126	934,559	82	457,188	44	477,371
1904	134	1,305,336	84	561,406	50	743,930
1905	135	1,145,612	84	572,467	51	573,145
1906	137	1,131,951	84	548,385	53	583,566
1907	142	1,157,665	86	558,625	56	599,040
1908	144	1,355,233	87	533,075	57	822,158
1909	149	1,771,524	88	599,784	61	1,171,740
1910	151	1,846,365	89	610,127	62	1,236,238
1911	151	1,435,079	89	610,685	62	824,394
1912	155	1,446,903	91	605,153	64	841,750
1913	158	2,065,540	91	609,704	67	1,455,836
1914	161	2,358,797	91	618,971	70	1,739,826
1915	171	2,098,393	93	681,699	78	1,416,694
1916	173	2,028,708	94	710,837	79	1,317,871
1917	173	2,558,857	94	812,312	79	1,746,545
1918	176	4,237,253	95	845,094	81	3,392,159
1919	178	3,823,038	94	931,146	84	2,891,892
1920	181	3,408,035	93	1,116,291	88	2,291,744
1921	182	4,236,766	92	1,227,978	90	3,008,788
1922	182	5,116,206	93	1,348,325	89	3,767,881
1923	184	5,498,239	94	1,507,241	90	3,990,998
1924	185	5,075,948	95	1,377,447	90	3,698,501
1925	185	5,579,678	95	1,416,564	90	4,163,114

Receipts Show Big Increase

The trends of receipts, as distinguished from the minor or cyclical fluctuations, indicate for both social agencies and religious organizations a more rapid rate of growth since 1914 than before. It should be remembered, however, that these figures are merely in terms of current dollars and have not