

wages, salaries, commissions, bonuses, pensions and the like, was decidedly less variable than profits in 1919-24, and decidedly more variable than income from investments in securities and real estate. More precise statements would have little meaning, because we know that our data are open to question and that the period covered is peculiar. But it seems improbable that the variations of wages and salaries in this period were more exaggerated than the variations of interest and rents.

Largest Most Variable

"Thus the conclusion is probably valid that the largest of the money-income streams are also the most variable in flow. Wages, salaries and profits, added together make over three-quarters of taxable income; of total income received in money they probably make four-fifths.¹ And their aggregate volume may change by 15, or 20 per cent, or, in extreme cases even more, in a single year."

¹Table 6, Business Cycles; The Problem and Its Setting, National Bureau of Economic Research.

A Labor View of Business Leadership

"ONE of the hopeful signs of this rather confused and distracted decade is the wide interest in business fluctuations, usually termed the business cycle. Indeed, we may say that the periodic rise, recession, fall and revival of business, with all its attendant horrors sweeping over the underlying population, has become the central problem of this generation. And the search for understanding, and even control of this phenomenon goes on intently, and is destined to go on.

"We do not need to assume the role of crepe-hanger in order solemnly to warn business leaders of this nation that the wiping out of the peaks of prosperity and the depths of depression to create a general level of business activity should be one of their chief obligations. Once let the underlying population become convinced that it lies within the power of men to avert such recurring economic disorders and they will not rest until the precautions are taken.

"It appears to be a settled fact that the business cycle is a peculiarity of modern business organization. Dr. Wesley C. Mitchell, in his recent brilliant book, 'Business Cycles', finds that 'business cycles are associated with a certain form of economic organization' and he defines that form as one in which 'a large proportion of its people are living mainly by making and spending money incomes'; namely in a society like our own where the great majority are wage-earners. Business cycles appear in a wage earning society. And depressions fall most severely upon the wage-earners.

"We hear a good deal from certain business leaders about the impudent insurgency of labor, but all that labor asks is that business leaders do what can be done to avert avoidable disasters."

—Editorial in Journal of Electrical Workers, official publication of the International Brotherhood of Electrical Workers, Vol. XXVI, No. 10.

COMMENDED TO BUSINESS MEN

The extraordinary increase in efficiency together with the stabilization of business which in America have followed the World War are due in very great measure to the unrivaled collections of data with respect to production which have enabled the prudent business man to frame his plans with intelligence. In the collection of these data, the National Bureau of Economic Research has played a leading part. Accordingly, it is, I think, entitled to the support of forward looking business men.

—William M. Chadbourne.

Publications of the National Bureau of Economic Research

BUSINESS CYCLES: The Problem and Its Setting.

First book on business cycles by Dr. Mitchell since the publication of his pioneer work in 1913. Here Dr. Mitchell explains the numerous processes involved in business cycles; shows how our present economic organization was evolved; describes how to use statistics in the study of business cycles and how to use business annals; and finally combines the insights derived from business annals, theoretical explanations and statistical researches into a working concept of business cycles. 512 pages, 6x9 inches. Cloth. \$6.50 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*. 380 pages. Cloth. (Second Printing) \$4.

MIGRATION AND BUSINESS CYCLES

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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. 306 pages, 17 maps and charts, 67 tables, indexed. Cloth. \$5.

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BUSINESS CYCLES AND UNEMPLOYMENT

Results of an investigation made by 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 alleviate cyclical unemployment. 405 pages, with 56 charts, and indexed. Cloth. \$4.10.

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DISTRIBUTION OF INCOME BY STATES IN 1919

A study of the share of each state in the national income in 1919. Size 9¼x6¼ inches, 32 pages, with preface and 9 tables. Cloth. (Out of print.)

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474 West 24th Street, New York

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for Impartial
Investigation

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To Find Facts
Divested of
Propaganda

No. 27

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February 15, 1928

Wages and Hours in the American Cotton Textile Industry

Increase of manufacturing activity more marked in South than in North shown by figures—earnings in different sections compared in period of 20 years.

IN the last issue of this bulletin data were presented to show the differences in discount rates in various parts of the United States. Regional variations such as these are not isolated occurrences but are to be found in most economic series. The cost of living, for example, varies widely from section to section and even from city to city. Earlier publications of the Bureau described the marked differences in per capita income as between one region and another. These variations, moreover, are not permanent, but themselves change from time to time, particularly during successive phases of the business cycle.

In the matter of working conditions, such as wages and hours, the levels prevailing in each section of the country likewise show a high degree of variability, which is frequently regarded as of fundamental importance in determining or, at least, influencing the future localization of industry.

For American industry is not yet a homogeneous and stable industry. Within the political boundaries of the country, it is mobile; the localization of industry is a changing one. Developments in transportation; the discovery of new available pockets of labor; the force of competition are all factors that from time to time lead to substantial shifts in the centers of industrial activity.

Thus the East becomes industrialized; then the West; and now the South. The phenomenon in its broadest aspects is not unlike the historical discovery of new empires, or more accurately, new geographical areas, with their undeveloped human and material resources.

When an industry is still in its stage of rapid growth the discovery of new industrial areas may not affect the established industry, but where growth is slow or has ceased a new localization may result in serious consequences in the old. In other words the new may grow at the expense of the old.

The cotton textile industry of this country is commonly believed to be passing through such a phase of its development. The industry is regarded as failing in the North and as growing in the South.

The figures support this prevailing opinion says Dr. Leo Wolman, of the Research Staff of the National Bureau of Economic Research in a preliminary report to the Bureau's Executive Committee just approved for publication in the News-Bulletin. This paper deals with only one phase of a comprehensive investigation of the American Labor Market upon which Dr. Wolman and assistants have been engaged for several years.

(Continued on Page 2)

First Copies of Mills' New Book on Prices Ready Now

THE first copies of "The Behavior of Prices" have just come off the press and are being distributed to the National Bureau's contributing subscribers.

This book of 598 pages gives the results of a comprehensive investigation by Dr. Frederick C. Mills, of the National Bureau's Research Staff, of the fluctuations of commodity prices, individually and collectively. The period covered includes the years 1890 to 1927.

In its emphasis on the behavior of the prices of individual commodities, this work represents a notable departure from the customary method of analyzing price movements by means of index numbers alone.

The buyer or seller of cattle, copper, cotton, raisins, rosin, rubber, silk, sugar, steel—or any one of several hundred other important commodities—will here find novel measures describing its price movements in America's wholesale markets.

Detailed tables present measures of the range of fluctuations in individual prices and of long time trends.

The analysis of cycles in commodity prices reveals those articles which tend to rise early on revival, and those which fall first on recession, as well as those which lag.

Changes in individual commodity prices are compared with movements of interest rates and of various indexes of general business conditions.

The treatment of specific commodities is followed by sections dealing with the economic import of general price movements and of price relations.

A special index of commodities facilitates ready reference.

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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In the following table computations of the percentage of the total number of wage earners in the industry who, in the seven census years from 1904 to 1925, work in the South, shows an appreciable rise in the importance of the South, particularly since 1919:

Census Year	Percentage South Wage Earners of Total (1)
1904	40.1
1909	40.0
1914	43.1
1919	45.1
1921	47.4
1923	50.7
1925	55.8

If the figures were carried beyond 1925, the South would in all probability show a further disproportionate growth, since a movement of this sort, once it gathers momentum, proceeds for a while at an accelerated rate.

It is inevitable that working conditions in two divergent industrial areas, one old and the other new, should not be the same. Variations in the experience of labor, local custom, differences in the cost of living, and the absence or presence of labor organizations, together with many other factors, explain striking disparities in hours, wages, and working conditions in general. Such disparities do in fact exist between the Southern and Northern cotton textile industries. The figures below, taken from the reports of the U. S. Bureau of Labor Statistics trace the course of the hourly rates of wages of men and women in the North and South from 1907 to 1926.

Year	Hourly Rates of Wages (cents)			
	Men		Women	
	North	South	North	South
1907	.183	.126	.147	.095
1913	.199	.144	.161	.113
1914	.186	.129	.156	.107
1916	.222	.139	.189	.114
1918	.332	.209	.278	.172
1920	.557	.437	.475	.358
1922	.422	.272	.371	.224
1924	.497	.306	.420	.247
1926	.448	.287	.371	.231

Hourly rates of wages for either men or women are consistently lower in the South. In 1914 men's wages in the North are 44% higher than men's wages in the South and women's 47%. By 1926 the difference is even wider; men's wages in the North are 56% greater than in the South and women's wages more than 60%.

(1) The Northern states include California, Connecticut, Illinois, Indiana, Maine, Massachusetts, New Hampshire, New Jersey, New York, Ohio, Pennsylvania, Rhode Island, Vermont, Wisconsin and Michigan. The Southern states include Alabama, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, South Carolina, Tennessee, Texas and Virginia.

Somewhat the same conclusions are drawn from the next table which shows the full-time hours per week in the North and South each over the same period of time.

Year	Full Time Hours Per Week	
	North	South
1907	58.5	64.1
1913	55.9	60.2
1914	54.8	60.1
1916	55.0	60.2
1918	54.1	59.5
1920	49.0	55.4
1922	50.5	55.4
1924	50.5	55.5
1926	50.0	55.7

The full-time work week was in 1914 nearly 10% longer in the South than in the North and in 1926, at the end of the period, nearly 11% longer.

Although wages and hours are a significant item in labor cost, these differences between the North and South in hourly rates of wages and full-time hours per-week cannot be regarded as measures of differences in labor cost in these two competing industrial areas. Unmeasured factors such as differences in the efficiency of labor, gratuities to workers in the form of rent or other services, are factors in labor cost that are not reflected in the wage rate. The same figures, likewise, are not measures of relative well-being because they do not take into consideration local differences, sometimes great, in the costs of living. Allowing for all such items, however, the figures appear on their face to indicate substantial competitive advantage to the South.

These comparative advantages, however, cannot be considered decisive in fixing the future localization of the cotton textile industry. Industry is subject to considerable inertia which resists its movement from one region to another. The existence of a supply of experienced labor and of substantial numbers of persons who have managerial capacity and who know the business, which is characteristic of the established industrial area, often acts to interrupt a trend that on its surface appears irresistible. Observers of the cotton textile industry point to the operation of such recuperative forces in the New England states that may conceivably interrupt, if not change, the trend of the industry toward the South.

Throughout all of this and similar discussions of wages and hours, it must be remembered that the final figures of the U. S. Bureau of Labor Statistics are based only on a portion of the workers in the industry. In 1907 the sample of wage-earners included in the wage and hours study of the Bureau included in both the North and the South less than 4% of the total number of wage-earners in the industry; by 1926 the sample had grown to nearly 20% for both areas. This exhibit throws some light on the dangers of long-time comparisons in wages and hours and suggests the constant necessity of testing the representative character of the samples commonly in use.

Mitchell Measures Effect of Business Cycles Upon Principal Income Streams

HOW are the money incomes of individuals from different sources affected by business cycles?

To answer this question Professor Wesley C. Mitchell, director of research of the National Bureau of Economic Research, has made a critical analysis of the fluctuations of the various income streams such as earnings, profits, dividends, rents and interest, using the returns which were reported to the Bureau of Internal Revenue in the period 1919-1924 inclusive.

By reducing the yearly figures for the various income streams to relatives based upon their respective average values, and also computing the percentage change from one year to the next, he shows the student of business cycles which streams have been fairly steady and which have been highly variable.

Profits Most Variable

Profits appear to be, as one expects, much the most variable type of income. They fall nearly 30 per cent in one year and increase over 40 per cent in another year.

Rents and royalties rank next in average variations; but these figures may not be representative, because, during the years covered, rents seem to have been undergoing a belated adjustment to the change in the general level of prices brought about by the war. They make spasmodic advances in 1921, 1923 and 1924, while in two other years they show no change.

Interest, investment and fiduciary income varies much more than one would expect. All the changes are increases. Even in the severe depression of 1921, interest receipts did not fall off.

Dividends, while moving up or down every year, proved decidedly the stablest type of money income in this period. That is, the changes, though frequent, were small in comparison with the maximum changes in the other types of income.

Profits and Dividends in Contrast

"Particularly striking, and particularly important for our problem," observes Dr. Mitchell "is the contrast between the extreme variability of profits and the relative steadiness of dividends.

"Most men of property diversify their investments, holding some bonds, some stocks, and perhaps some real estate. Hence the changes in the money incomes of the investing classes are best ascertained by adding together interest, dividends and rents. On so doing we get an income stream whose average volume (according to the Internal Revenue figures) is about equal to the volume of profits, but which varies not much more than dividends. This is the flow which we should compare with profits on the one hand and wages on the other.

"That comparison indicates that the largest of the income streams, payments to employees, as