This PDF is a selection from an out-of-print volume from the National Bureau of Economic Research

Volume Title: Wages and Earnings in the United States, 1860-1890

Volume Author/Editor: Clarence D. Long

Volume Publisher: Princeton University Press

Volume ISBN: 0-87014-066-3

Volume URL: http://www.nber.org/books/long60-1

Publication Date: 1960

Chapter Title: Front matter, Wages and Earnings in the United

States 1860-1890

Chapter Author: Clarence D. Long

Chapter URL: http://www.nber.org/chapters/c2494

Chapter pages in book: (p. -20 - 0)

WAGES AND EARNINGS IN THE UNITED STATES 1860-1890

NATIONAL BUREAU OF ECONOMIC RESEARCH NUMBER 67, GENERAL SERIES

Wages and Earnings in the United States 1860-1890

BY CLARENCE D. LONG

The Johns Hopkins University



A STUDY BY THE NATIONAL BUREAU OF ECONOMIC RESEARCH, NEW YORK

PUBLISHED BY
PRINCETON UNIVERSITY PRESS, PRINCETON
1960

Copyright © 1960, by Princeton University Press

All Rights Reserved

L.C. CARD 60-5756

Printed in the United States of America

NATIONAL BUREAU OF ECONOMIC RESEARCH

OFFICERS

George B. Roberts, Chairman
Arthur F. Burns, President
Theodore W. Schultz, Vice-President
Murray Shields, Treasurer
Solomon Fabricant, Director of Research
Geoffrey H. Moore, Associate Director of Research
William J. Carson, Executive Director

DIRECTORS AT LARGE

Wallace J. Campbell, Director, Cooperative League of the USA
Solomon Fabricant, New York University
Gabriel Hauge, Chairman, Finance Committee, Manufacturers Trust Company
Albert J. Hettinger, Jr., Lazard Frères and Company
Oswald W. Knauth, Beaufort, South Carolina
H. W. Laidler, Executive Director Emeritus, League for Industrial Democracy
Shepard Morgan, Norfolk, Connecticut
George B. Roberts, Larchmont, New York
Beardsley Ruml, New York City
Harry Scherman, Chairman, Book-of-the-Month Club
Boris Shishkin, American Federation of Labor and
Congress of Industrial Organizations
George Soule, Professor Emeritus, Bennington College
N. I. Stone, Consulting Economist
J. Raymond Walsh, New York City
Joseph H. Willits, Director, The Educational Survey, University of Pennsylvania
Leo Wolman, Columbia University
Donald B. Woodward, Vick Chemical Company
Theodore O. Yntema, Vice-President—Finance, Ford Motor Company

DIRECTORS BY UNIVERSITY APPOINTMENT

V. W. Bladen, Toronto
Arthur F. Burns, Columbia
Melvin G. de Chazeau, Cornell
Frank W. Fetter, Northwestern
H. M. Groves, Wisconsin
Gottfried Haberler, Harvard

Walter W. Heller, Minnesota Maurice W. Lee, North Carolina Lloyd G. Reynolds, Yale T. W. Schultz, Chicago Jacob Viner, Princeton Willis J. Winn, Pennsylvania

DIRECTORS APPOINTED BY OTHER ORGANIZATIONS

Percival F. Brundage, American Institute of Certified Public Accountants
Harold G. Halcrow, American Farm Economic Association
Theodore V. Houser, Committee for Economic Development
Stanley H. Ruttenberg, American Federation of Labor and
Congress of Industrial Organizations
Murray Shields, American Management Association
Willard L. Thorp, American Economic Association
W. Allen Wallis, American Statistical Association
Harold F. Williamson, Economic History Association

RESEARCH STAFF

Moses Abramovitz
Gary S. Becker
Gerhard Bry
Arthur F. Burns
Morris A. Copeland
Frank G. Dickinson
James S. Earley
Richard A. Easterlin
Solomon Fabricant
Milton Friedman

Raymond W. Goldsmith Leo Grebler Millard Hastay W. Braddock Hickman Daniel M. Holland Thor Hultgren C. Harry Kahn John W. Kendrick

Simon Kuznets

Clarence D. Long

Ruth P. Mack Ilse Mintz Geoffrey H. Moore Roger F. Murray G. Warren Nutter Lawrence H. Seltzer Robert P. Shay George J. Stigler Leo Wolman Herbert B. Woolley

RELATION OF THE DIRECTORS TO THE WORK AND PUBLICATIONS OF THE NATIONAL BUREAU OF ECONOMIC RESEARCH

- 1. The object of the National Bureau of Economic Research is to ascertain and to present to the public important economic facts and their interpretation in a scientific and impartial manner. The Board of Directors is charged with the responsibility of ensuring that the work of the National Bureau is carried on in strict conformity with this object.
 - 2. To this end the Board of Directors shall appoint one or more Directors of Research.
- 3. The Director or Directors of Research shall submit to the members of the Board, or to its Executive Committee, for their formal adoption, all specific proposals concerning researches to be instituted.
- 4. No report shall be published until the Director or Directors of Research shall have submitted to the Board a summary drawing attention to the character of the data and their utilization in the report, the nature and treatment of the problems involved, the main conclusions, and such other information as in their opinion would serve to determine the suitability of the report for publication in accordance with the principles of the National Bureau.
- 5. A copy of any manuscript proposed for publication shall also be submitted to each member of the Board. For each manuscript to be so submitted a special committee shall be appointed by the President, or at his designation by the Executive Director, consisting of three Directors selected as nearly as may be one from each general division of the Board. The names of the special manuscript committee shall be stated to each Director when the summary and report described in paragraph (4) are sent to him. It shall be the duty of each member of the committee to read the manuscript. If each member of the special committee signifies his approval within thirty days, the manuscript may be published. If each member of the special committee has not signified his approval within thirty days of the transmittal of the report and manuscript, the Director of Research shall then notify each member of the Board, requesting approval or disapproval of publication, and thirty additional days shall be granted for this purpose. The manuscript shall then not be published unless at least a majority of the entire Board and a two-thirds majority of those members of the Board who shall have voted on the proposal within the time fixed for the receipt of votes on the publication proposed shall have approved.

6. No manuscript may be published, though approved by each member of the special committee, until forty-five days have elapsed from the transmittal of the summary and report. The interval is allowed for the receipt of any memorandum of dissent or reservation, together with a brief statement of his reasons, that any member may wish to express; and such memorandum of dissent or reservation shall be published with the manuscript if he so desires. Publication does not, however, imply that each member of the Board has read the manuscript, or that either members of the Board in general, or

of the special committee, have passed upon its validity in every detail.

7. A copy of this resolution shall, unless otherwise determined by the Board, be printed in each copy of every National Bureau book.

(Resolution adopted October 25, 1926 and revised February 6, 1933 and February 24, 1941)

FOREWORD

This monograph by Professor Clarence D. Long is one of several reports¹ on the history of wage rates and of changes in productivity in the United States over the past century which were made possible by a grant to the National Bureau from the Alfred P. Sloan Foundation. (The Foundation, of course, is not to be held responsible for the conclusions.) The period, 1860-1890, covered by Mr. Long's study is most interesting, for it included a great civil war followed by years of rapid industrialization, and saw a long decline in prices. Intensive study of the period was possible because of the availability for these years of the wage and price data of the Aldrich and Weeks reports, earnings data of the Census, and various collections of wage data by individual states and by the United States Department of Labor.

In reconstructing the wage history of this important segment in American economic development, Mr. Long shows the difficulties encountered in arriving at any single, most acceptable measure of money wages, prices, and real wages for a remote historical period in which the available data were sparse and of doubtful quality. He therefore places before the reader alternative bodies of data, discusses their respective virtues and defects, and finally chooses the series which, for the reasons he gives, appear most satisfactorily to depict the course of events he is engaged in describing.

A major finding is, first, that the money daily wage rate of factory employees in the United States, 1860-1890, increased about 50 per cent. Since hours of work declined during this period, money hourly earnings are found to have risen 60 per cent. By constructing a new index number of the cost of living, based on the index of Miss Ethel D. Hoover of the U.S. Department of Labor for the period 1860-1880 and on retail prices collected by himself for the decade 1880-1890, Mr. Long finds that cost of living in 1890 was 2 per cent less than in 1860. It follows, then, that real daily wages of factory employees, 1860-1890, rose by 50 per cent, and that real hourly earnings increased 60 per cent, or 1.6 per cent a year.

¹ John W. Kendrick, *Productivity Trends: Capital and Labor*, Occasional Paper 53, New York, NBER, 1956, and *Productivity Trends in the United States* (in preparation); Solomon Fabricant, *Basic Facts on Productivity Change*, Occasional Paper 63, New York, NBER, 1959; Albert Rees, *Real Wages in Manufacturing*, 1890-1914 (in preparation), and a forthcoming paper presenting some revised statistics of real wages since 1914.

FOREWORD

In addition, Mr. Long throws fresh light on changes in wage differentials—between regions, industries, occupations, and other classes of workers; and, during his discussion, suggests some of the important factors that played a significant role in accounting for the changes in wages and wage structure that he finds.

Everyone interested in the economic history of the United States and in the rate of development—past and future—in this and other countries will be influenced in his thinking by the combinations of data set forth and documented in Mr. Long's study.

LEO WOLMAN

ACKNOWLEDGMENTS

THE present work was begun at the suggestion of Leo Wolman, who turned over to me some files which had earlier been compiled under his direction. The study has benefited from the critical comments of Gerhard Bry, Richard A. Easterlin, Solomon Fabricant, Geoffrey H. Moore, Albert Rees, George Soule, and Leo Wolman. Much of any merit it possesses was made possible through the careful research assistance of Margaret Chen. H. Irving Forman drew the charts.

CLARENCE D. LONG

Baltimore, Maryland



CONTENTS

Fo	preword	vii
A	cknowledgments	ix
1.	Introduction	
	The Time and the Questions	3 5 5
2.	The Course of Money Wages during 1860-1890	
	Daily Wages in Manufacturing and Building The Method Used in This Study. Methods Used by Others Comparison of Average Wages Obtained in This and Other Investigations Using Aldrich Data Comparison of Average Wages Obtained in This and Other Investigations Using Weeks Data Comparison of Average Wages Obtained in This and Other Investigations Using Weeks Data Comparison of Average Wages from the Several Sources of Wage Data Averages of Wages from a Constant List versus an Increasing List of Occupations or Establishments Trends in Length of Workday	13 15 17 19 24 25 32 35
3.	Annual Earnings	
	Sources and Nature of the Earnings Data	39 43
4.	The Buying Power of Wages and Earnings	
	The Previous Indexes of Living Cost	50 53 53 56 61 68

CONTENTS

٥.	wages by	illuusti	y a	.IIC	1 1/	.cg	OII										
	Wages by Wages by	Industry Region	•	•	•				•			•	•	•		•	69 79
6.	Wages by	Occupa	ıtio	na	l a	nd	Inc	livi	dua	l C	har	act	eris	tics	3		
	Wages by Wages by	Occupat Sex and	ion Ag	2		•	•		•	•	•		•	•	•	•	94 104
7.	Summary	and Co	ncl	usi	ion	S	•		•		•	•	•	•	•	٠	109
	Appendix	es (see l	ist	of	Αŗ	pe	ndi	хΤ	abl	es,	pag	ges	xvi-	-xv	ii)		
	Y., J.,,																16

Text tables show data at five- or ten-year intervals through the period (unless otherwise stated). Annual series are given in the appendixes.

1.	Money Average Daily Wages in Manufacturing Industries, Based on Aldrich, Weeks, and Bulletin 18 Reports, Compared with Census-Reported Average Annual Earnings in Manufacturing: 1860-1890	14
2.	Money Average Daily Wages in the Building Trades, Aldrich and Bulletin 18 Reports, 1860-1890	15
3.	Relatives of Average Daily Wage-Rates, Computed from the Aldrich Report in This and Other Investigations: 1860-1890	20
4.	Relatives of Average Daily Wage-Rates in the Building Trades, Computed from the Aldrich Report in This and Other Investigations: 1860-1890	22
5.	Factors Explaining the Discrepancy in Relative Behavior between the Weighted Mean of Dollar Wage-Rates in Manu- facturing Derived in This Study from the Aldrich Report, and the Weighted Mean of Relative Wage-Rates, Derived from It by Wesley Mitchell for the Manufacturing Industries along	
_	with Others: 1860-1890	22
6.	Factors Explaining the Discrepancy in Relative Behavior between the Weighted Mean of Dollar Wages in Building Derived in This Study from the Aldrich Report, and the Weighted Mean of Relative Wages Derived from It by Wesley Mitchell: 1860-1890.	24
7.	Relatives of Average Daily Wage-Rates Computed in This and Mitchell's Investigations from the Weeks Report: 1860-1880	25
8.	Daily Wage-Rates in Selected Occupations: Aldrich and Bulletin 18 Data Compared by States, 1870-1890	27
9.	Wage-Rates in Same Industry, Occupation, and State: Selected Data Comparing Aldrich Report and First Annual Report, 1885	30
10.	Comparison of Hourly Wages from the Aldrich Report and the Dewey Report, Ten Manufacturing Industries, 1890	33
11.	Weighted Average Daily Wage-Rates for a Constant List of 69 Establishments, 1860-1880, Compared with a List Including Establishments Newly Reporting during the Period; from the Weeks Report	34
12.	Hours per Day: Distribution of Manufacturers' Statements Concerning Length of Workday, Weeks Report, 1860-1880.	35
13.	Hours per Day in Manufacturing Industries, Based on Aldrich Report Hours Data; Annually 1860-1890	37

14.	Adjustments to Data on Wage-Earners and Earnings as Reported by the Census of Manufactures, in Order to Exclude Nonmanufacturing Industries and Others: 1860-1890	42
15.	Index of Average Annual Earnings in Manufacturing from the Census Compared with Wage Indexes for Manufacturing Computed in This Study and with Wage Indexes for Mixed Industries by Other Investigators: 1860-1890	44
16.	Number of Men, Women, and Children Reported as Wage Earners to the Census of Manufactures, 1860-1890	45
17.	Indexes of Cost of Living, Country-Wide, 1860-1890	60
18.	Index of Real Daily Wages in Manufacturing in the East, Based on Aldrich Wage Data and Hoover-Long Consumer Price Index; Compared with Indexes for Mixed Industries Computed by Other Investigators from Aldrich Data and Various Price Indexes: 1860-1890	63
19.	Indexes of Real Wages in Manufacturing, Based on Weeks-Bulletin 18 Wage Data and Hoover-Long Consumer Price Index; Compared with Indexes Computed by Mitchell: United States and East and West, 1860-1890	65
20.	Indexes of Real Wages in Building, Based on Aldrich Report and Bulletin 18 Data and on Hoover-Long Consumer Price Index: United States, and East, West, and South, 1860-1890.	65
21.	Real Average Annual Earnings in Manufacturing, 1860-1890	68
22.	Daily Wages for 18 Manufacturing Industries, with Relative Wages and Rankings; Weeks Report, 1860-1880	69
23.	Daily Wages for 13 Manufacturing Industries and for the Building Trades, with Relative Wages and Rankings; Aldrich Report, 1860-1890	70
24.	Average Annual Earnings of Wage Earners for 17 Manufacturing Industries, with Relative Earnings and Rankings; Census, 1860-1890	72
25.	Average Deviation of Daily Wages among Ten Industries Having Data Separately for East and West; Weeks Report, 1860 and 1880	75
26.	Average Deviation of Annual Earnings among 17 Manufacturing Industries, in the United States and Five Major Regions; Census, 1860 and 1890	76
27.	Average Deviation of Hourly Wages among Different Manufacturing Industries for the Same Selected Occupations, First Annual Report, 1885	77
28.	Effect of Fixed versus Current Employment Weights on Wages	78

29.	Weighted Average Daily Wage-Rates in Manufacturing Industries for the East, West, and South; Weeks Report, 1860-1880	79
30.	Percentage Ratio of Daily Wages in Western and Southern Establishments to Those in Eastern Establishments; Identical Industries, Weeks Report, 1860-1880	80
31.	Percentage Ratio of Wages in Manufacturing Industries in Southern and Western States to Those in Eastern States, 1885 and 1890; First Annual and Dewey Reports	82
32.	Percentage Ratio of Average Annual Earnings in Four Major Regions to Those in the Middle Atlantic Region, for 17 Manu- facturing Industries; Census, 1860-1890	84
33.	Average Deviation of Average Annual Earnings of Employees in 17 Manufacturing Industries, among States: United States and Five Major Regions; Census, 1860-1890	85
34.	Percentage Ratio of Daily Wages in Southern and Western Establishments to Those in Eastern Establishments for the Same Occupation: 10 Manufacturing and 4 Building Occupations, Bulletin 18, 1870-1890	87
35.	Percentage Ratio of Average Hourly Wages in Selected Occupations and Industries of Major Regions to Those in Middle Atlantic States, First Annual Report, 1885	88
36.	Daily Wages of Workers of the Same Sex in the Same Occupation and Industry: Selected Data for Southern, Eastern, and Western States; First Annual Report, 1885	89
37.	Percentage Ratio of Daily Wages in Southern, Eastern, and Western Establishments to Those in Middle Atlantic Establishments; Selected Occupations, Males 16 and Older, Dewey-Census Report, 1890	90
38.	Average Deviation of Hourly Wages in Selected Occupations and Industries, among States within Regions and among Regions; First Annual Report, 1885	92
39.	Average Daily or Hourly Wages in Five Skilled Occupations, Occurring in Various Manufacturing Establishments, Weeks and Aldrich Reports, 1860-1890	94
40.	Median Daily Wages of Workers of All Reported Occupations, for Four Industries; Aldrich Report, 1860-1890	95
41.	Average Deviation of Daily Wages among Different Occupations in the Same Establishment: 15 Establishments from Each of 15 Industries, Weeks Report, 1860-1880	97
42.	Average Daily Wages for 14 Occupations in Large Cities, from Bulletin 18, Weighted by Census-Reported Number Attached to the Occupation in the Respective State; 1870-1890	98

43.	Average Wage-Rates of Laborers and of Five Skilled Occupations; Weeks Report, 1860-1880, Aldrich Report, 1860-1890.	99
44.	Percentage Ratio of Daily Wages of Journeymen in Specific Occupations to Wages of Foremen or Overseers for Those Occupations, in the Same Establishment; Aldrich Report, 1860-1890	101
45.	Percentage Ratio of Daily Wage-Rates of Journeymen's Helpers to Those of Journeymen in Specific Occupations, in the Same Establishment; Aldrich Report, July, 1860-1890	102
46.	Percentage Ratio of Daily Wage-Rates of Helpers to Those of Journeymen in the Same Occupation and Establishment, Weeks Report, 1860-1880	103
47.	Average Daily Wages of Adult Males, Adult Females, and Children and Youths; First Annual Report, 1885	105
48.	Median Hourly Wage-Rates of Males and Females 16 and Older and of Males under 16; Dewey Report, 1890	106
49.	Median Daily Wage-Rates of Males and Females in Cotton and Woolen Goods Manufacturing, 1860-1890	106
50.	Daily Wage-Rates of Females as a Percentage of Wages of Males in Identical Occupations and Establishments, Aldrich	
	Report, 1860-1890	107
51.	Daily Wages of Boys as Percentages of Wages of Laborers in the Same Establishment; Weeks Report, 1860-1880	108
	APPENDIX TABLES	
A-1	Daily Wage-Rates in 13 Manufacturing Industries and in Building from the Aldrich Report, Weighted by Employment within the Establishment and by Number Gainfully Occupied Reported Attached to the Industries at the Decennial Censuses; January and July, 1860-1890	121
A-2		125
A-3		129
A-4	4 "Building" Occupations from Bulletin 18 of the Department of Labor, Weighted by Number Reported Attached to the Occupations at the Decennial Censuses; United States, by	125
	Regions, Annually 1870-1880	135

A-5.	Hourly Wages of Five Skilled Occupations and of Laborers, Various Manufacturing Establishments, Aldrich Report, January and July, 1860-1890	143
A-6.	Occurring in Various Manufacturing Establishments, Weeks Report, Annually 1860-1880	144
A-7.	Daily and Hourly Wage-Rates by Sex, Age, Industry, and Number of Employees, First Annual Report, 1885	145
A-8.	Hourly Wage-Rates by Sex, Age, Industry, and Number of Employees, Dewey Report, 1890	148
A-9.	Average Annual Earnings of Manufacturing Wage Earners in 17 Industries; United States, by Regions; Census, Decennial Years Ending May 31, 1860-1890	150
A-10.	Manufacturing and Building Wages (Aldrich, Weeks, Bulletin 18 Data) Adjusted for Changes in Living Cost; Annually 1860-1890	152
A-11.		153
A-12.	Wages of Skilled and Laboring Occupations (Aldrich and Weeks Data) Adjusted for Changes in Living Cost; Annually 1860-1890	154
A-13.		155
B-1.	The Hoover Consumer Price Index for the United States during 1860-1880	156
B-2.	A New Consumer Price Index for the United States during 1880-1890, Prepared in This Study for Linkage with the Hoover Index.	157
B-3.	A New Consumer Price Index Constructed from Retail Price Data for Food, Clothing, Housing, Fuel and Light, and Other Cost of Living Items, 1880-1890	158
C-1.	Employment in 13 Manufacturing Industries from the Aldrich Report, January and July, 1860-1890	161
C-2.	Employment of Manufacturing Wage Earners in 17 Industries; United States, by Regions, Decennial Years Ending May 31, 1860-1890	165

CHARTS

1.	Daily Money and Real Wages in Manufacturing, Annually,	
	1860-1890	62
2.	Daily Money and Real Wages in Building, Annually, 1860-1890	66
3.	Hourly Money and Real Wages in Manufacturing, Annually,	
	1860-1890	67
4.	Wages of Laborers and of 5 Skilled Occupations	100
	A. Hourly Wage-Rates from the Aldrich Report, Annually,	
	1860-1890	
	B. Daily Wage-Rates from the Weeks Report, Annually,	
	1860-1880	