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

Volume Title: Wages in Germany, 1871-1945

Volume Author/Editor: Gerhard Bry assisted by Charlotte Boschan

Volume Publisher: Princeton University Press

Volume ISBN: 0-87014-067-1

Volume URL: http://www.nber.org/books/bry\_60-1

Publication Date: 1960

Chapter Title: Front matter, Wages in Germany 1871-1945

Chapter Author: Gerhard Bry

Chapter URL: http://www.nber.org/chapters/c2503

Chapter pages in book: (p. -28 - 0)

# Wages in Germany 1871-1945

BY GERHARD BRY Rutgers University

ASSISTED BY CHARLOTTE BOSCHAN



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 60-5762

.

Printed in the United States of America

.

# WAGES IN GERMANY 1871-1945

# NATIONAL BUREAU OF ECONOMIC RESEARCH NUMBER 68, GENERAL SERIES

### 2,005,943

National Bureau of Economic Research, Inc.

Bry, Gerhard.

۰.

. :

Wages in Germany, 1871–1945, by Gerhard Bry, assisted by Charlotte Boschan. Princeton (N. J., Princeton University Press, 1960.

xxvi, 486 p. diagra, tables. 24 cm. (National Bureau of Economic Research. General series, no. 68)

"A study by the National Bureau of Economic Besearch, New York."

Bibliographical footnotes.

 1. Wages-Germany.
 I. Title.
 (Series)

 HD5029.B7
 \$31.2943
 60-5762

MATERIAL SUBMITTED BY PUBLISHER.

#### NATIONAL BUREAU OF ECONOMIC RESEARCH 1960

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, Nationwide Insurance Solomon Fabricant, New York University Crawford H. Greenewalt, E. I. du Pont de Nemours & Company Gabriel Hauge, Manufacturers Trust Company Albert J. Hettinger, Jr., Lazard Frères and Company H. W. Laidler, League for Industrial Democracy Shepard Morgan, Norfolk, Connecticut George B. Roberts, Larchmont, New York Harry Scherman, Book-of-the-Month Club Boris Shishkin, American Federation of Labor and Congress of Industrial Organizations George Soule, Washington College J. Raymond Walsh, New York City Joseph H. Willits, The Educational Survey, University of Pennsylvania Leo Wolman, Columbia University Donald B. Woodward, Vick Chemical Company Theodore O. Yntema, 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 Statistical Association W. Allen Wallis, American Statistical Association Harold F. Williamson, Economic History Association

#### DIRECTORS EMERITI

Oswald W. Knauth, Beaufort, South Carolina

#### RESEARCH STAFF

Moses Abramovitz Gary S. Becker Gerhard Bry Arthur F. Burns Phillip Cagan Morris A. Copeland Frank G. Dickinson James S. Earley Richard A. Easterlin Solomon Fabricant Milton Friedman Raymond W. Goldsmith Millard Hastay Daniel M. Holland Thor Hultgren F. Thomas Juster C. Harry Kahn John W. Kendrick Simon Kuznets Ruth P. Mack Ilse Mintz Geoffrey H. Moore Roger F. Murray Ralph L. Nelson G. Warren Nutter Richard T. Selden Lawrence H. Seltzer Robert P. Shay George J. Stigler Leo Wolman Herbert B. Woolley

N. I. Stone, New York City

## 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) TO THEA

.

·

·

## PREFACE

THE title of this book might suggest that the study is concerned with matters past and far away. In some sense this is, of course, true. But the limitation to a specific time and country is less stringent and less significant than it might appear. The major characteristics of wage behavior, as observed during the three-quarters of a century under review, reappear during the more recent past. And wage behavior in industrial Germany is shown to have had much in common with that observed in the United States and Great Britain during corresponding phases of their development.

So far as topical interest is concerned, the study deals with money and real wage trends in the course of economic growth and development; with the late and slight response of wage rates to downturns in economic activity; with wages during creeping, marching, and galloping inflation. These topics are, of course, the focus of much current economic thinking.

The value of the book, however, lies not only in the description of wage phenomena common to industrial countries. The bulk of the study is devoted to German experience, and what are perhaps its most interesting portions deal with German wages during two World Wars and the Great Inflation, against the background of the German institutional setting and economic thinking of these periods.

The study reflects the continuing interest of the National Bureau in the economics of wage behavior. It complements Daniel Creamer's *Behavior* of Wage Rates during Business Cycles (1950), Clarence D. Long's Wages and Earnings in the United States, 1860–1890 (1960), and Albert Rees' Real Wages in Manufacturing, 1890–1914 (in press). All of these investigations, in addition to making available more reliable series of money and real wages, are designed to clarify the important short-term and long-term relationships between wages, output, and general economic conditions.

Economists seeking to ascertain basic characteristics of economic behavior are deeply concerned with the degree of generality that can be claimed for their findings and hypotheses. Are the observed phenomena limited to a particular set of institutions, or do they reflect ubiquitous and generally valid relationships? Evidence from more than one country and more than one historical period is helpful in deciding such an issue. The present study will, it is hoped, in this fashion contribute to our understanding of wage behavior.

LEO WOLMAN

•

## AUTHOR'S ACKNOWLEDGMENTS

HAD I known, long years ago, how much effort the writing of this book would entail, I might never have begun it; and had I not had the generous help of many friends and colleagues, I might never have finished it. It gives me pleasure to recount my debts.

Of all my obligations, the largest is that to Leo Wolman. It was he who suggested this project, and who watched over its development every step of the way—advising, encouraging, prodding. I find it difficult adequately to express my thanks to him.

Geoffrey H. Moore read the manuscript with meticulous attention, making acute observations which helped to improve both content and organization. His practical assistance was invaluable. Daniel Creamer read several drafts of the manuscript and made many helpful comments. Harold Barger, at a critical juncture, gave me reassurance and constructive advice. Also, at one time or another, Solomon Fabricant, George and Vera Eliasberg, and Albert Rees offered good counsel.

Before being submitted to the publisher, the book was circulated, in mimeographed form, to a number of scholars in this country and abroad. I received many helpful responses which permitted me to correct mistakes and to add new material. The remaining weaknesses of this volume certainly cannot be blamed on lack of professional cooperation. I am particularly grateful for the detailed comments by Frieda Wunderlich of the New School for Social Research, by Hedwig Wachenheim of New York City, by John T. Dunlop and Melvin Rothbaum of Harvard University, by J. Heinz Müller of Freiburg University, by W. G. Hoffmann of Münster University, by Jürgen Kuczynski of Humboldt University in Berlin, and by E. H. Phelps Brown of the London School of Economics. I also wish to record my thanks to George Soule and Harry W. Laidler, who served as members of the reading committee of the Board of Directors of the National Bureau of Economic Research.

I have been particularly fortunate in my assistants. During the early stages of data collection and processing, several friends extended helping hands. Among them Ann Merjos came to my aid at a point when—in utter self-delusion—I thought I could complete this work in my spare time. During recent years I have enjoyed the unremitting cooperation of Charlotte Boschan, who has served not only as an indispensable coworker but also, rather often, as my conscience. I am grateful for her industry, her perseverance, and above all for her rare qualities of mind.

If now and then the reader should come upon a deft turn of phrase in the depths of this book, I can assure him that these are raisins embedded in the dough by my main editor, Bettina Hartenbach. Margaret T. Edgar edited my later additions and took care in the innumerable details of preparing the manuscript for press. I consider the editors responsible for whatever readability this study may possess.

H. Irving Forman designed and drew the charts with the impeccable craftsmanship that all of us at the National Bureau accept as one of our blessings.

I should like also to acknowledge the unstinting cooperation I received from the National Bureau's clerical staff in processing the manuscript against an ominous deadline.

Finally, there is my family. All research workers admit, with varying degrees of guilt, the heavy costs they inevitably pass on to the innocent the women and children. My own case is no exception. Early in their lives my son Peter and my daughter Ava learned to shudder at the words "German Wages." I want to thank them for their prolonged forbearance. As for my wife, I have recorded my gratitude on an earlier page.

Gerhard Bry

# CONTENTS

PREFACE, by Leo Wolman	•	•	•	•		•	•	ix
AUTHOR'S ACKNOWLEDGMENTS								xi
INTRODUCTION, INCLUDING POSTSCRIPT ON	Rec	ENT	Ye	ARS	•	•	•	3
1. THE ECONOMIC BACKGROUND						•		14
General Development								14
Area and Population								14
National Income and Production .								15
Labor Force: Structure and Organiza	tion	ι.						24
Changes in the Labor Force								24
Organization of Workers								29
Organization of Employers								37
Determination of Wages and Worki								38
Trends in Hours of Work								45
2. Trends in Wage Levels								51
Money Wages								51
Average Wages								51
1871 to World War I								54
War and Inflation								54
Weimar Prosperity and Depressio								56
The National Socialist Expansion								56
Gross Earnings and Net Earnings						•		56
Selected Dates and Earnings	٠	•	•		•	•	•	57
Selected Rates and Earnings	•	•	•		•	•	•	63
Wages and Prices	•	•			•	•	•	63
Wage Rates and Wholesale Prices .					•		•	65
							•	67
Wage Rates and Retail Prices Real Wages							•	70
General								70
1871 to World War I								71
War and Inflation								74
Weimar Prosperity and Depression	•	•	•	•	•	•	•	75
The National Socialist Expansion .	•	•	•	•	•	•	•	77
Real Wages and Production	•	•	•	•	·	•	•	77
Comparison of Trends	•	•	•	•	•	•	•	77
Levels before and after World War	ι.	•	•	·	•	•	•	78
Conclusion	•	•	•	•	•	•	•	79

3. THE STRUCTURE OF WAGES       80         Differentials Relating to Type of Worker       81         Skill Differentials       81         1913-1945       81         1913-1945       83         Some Determinants of Skill Differentials       89         Wages for Youth, Excluding Apprentices       89         Compensation for Apprentices       91         Sex Differentials       93         Nature and Extent       93         1871-1913       95         1913-1945       95         An Interpretation of Sex Differentials       99         Differentials Relating to Place of Employment       101         City-Size Differentials       101         Nature and Extent       102         Some Determinants of City-Size Differentials       102         Some Determinants of Regional Differentials       108         Industrial Differentials       108         Some Determinants of Industrial Differentials       109         Nature and Extent       109         Neades and Turning Points in Busineses Conditions	xi	v contents					
Skill Differentials       81         1871-1913       81         1913-1945       83         Some Determinants of Skill Differentials       83         Age Differentials       89         Wages for Youth, Excluding Apprentices       89         Wages for Youth, Excluding Apprentices       89         Compensation for Apprentices       91         Sex Differentials       93         Nature and Extent       93         1871-1913       95         1913-1945       95         An Interpretation of Sex Differentials       99         Differentials Relating to Place of Employment       101         City-Size Differentials       102         Some Determinants of City-Size Differentials       102         Some Determinants of City-Size Differentials       106         Nature and Extent       106         Trends in Regional Differentials       108         Some Determinants of Regional Differentials       108         Industrial Differentials       109         Nature and Extent       109 <td>3.</td> <td>THE STRUCTURE OF WAGES</td> <td></td> <td></td> <td></td> <td></td> <td>80</td>	3.	THE STRUCTURE OF WAGES					80
Skill Differentials       81         1871-1913       81         1913-1945       83         Some Determinants of Skill Differentials       83         Age Differentials       89         Wages for Youth, Excluding Apprentices       89         Wages for Youth, Excluding Apprentices       89         Wages for Youth, Excluding Apprentices       93         Nature and Extent       93         1871-1913       95         1913-1945       95         An Interpretation of Sex Differentials       99         Differentials Relating to Place of Employment       101         City-Size Differentials       101         Nature and Extent       101         Trends in City-Size Differentials       102         Some Determinants of City-Size Differentials       106         Nature and Extent       106         Trends in Regional Differentials       108         Some Determinants of Regional Differentials       108         Industrial Differentials       109         Nature and Extent       109         Nature and Extent       109         Nature and Extent       109         Industrial Differentials       113         Some Determinants of Regional Differentials		Differentials Relating to Type of Worker .					81
1871-1913       81         1913-1945       83         Some Determinants of Skill Differentials       83         Age Differentials       89         Wages for Youth, Excluding Apprentices       89         Compensation for Apprentices       91         Sex Differentials       93         Nature and Extent       93         1871-1913       95         1913-1945       95         An Interpretation of Sex Differentials       99         Differentials Relating to Place of Employment       101         City-Size Differentials       102         Some Determinants of City-Size Differentials       102         Some Determinants of City-Size Differentials       103         Trends in Regional Differentials       106         Nature and Extent       106         Nature and Extent       109         Nature and Extent		Skill Differentials					
1913-1945       83         Some Determinants of Skill Differentials       85         Age Differentials       89         Wages for Youth, Excluding Apprentices       89         Compensation for Apprentices       91         Sex Differentials       93         Nature and Extent       93         1871-1913       95         1913-1945       95         An Interpretation of Sex Differentials       99         Differentials Relating to Place of Employment       101         City-Size Differentials       101         Nature and Extent       102         Some Determinants of City-Size Differentials       102         Some Determinants of Regional Differentials       106         Nature and Extent       106         Nature and Extent       106         Nature and Extent       106         Nature and Extent       106         Industrial Differentials       108         Some Determinants of Regional Differentials       108         Industrial Differentials       109         Nature and Extent       109         Nature and Extent       109         Industrial Differentials       113         Some Determinants of Industrial Differentials       116		1871-1913			•		
Some Determinants of Skill Differentials85Age Differentials89Wages for Youth, Excluding Apprentices89Compensation for Apprentices91Sex Differentials93Nature and Extent931871-1913951913-194595An Interpretation of Sex Differentials99Differentials Relating to Place of Employment101City-Size Differentials101Nature and Extent101Trends in City-Size Differentials102Some Determinants of City-Size Differentials105Regional Differentials106Nature and Extent106Trends in Regional Differentials108Some Determinants of Regional Differentials109Nature and Extent109Trends in Industrial Differentials109Nature and Extent109Trends in Industrial Differentials119Some Determinants of Industrial Differentials119Vages and Turning Points in Business Conditions125Conformity of Wages125The Lag of Wages behind Cyclical Turns135Why do Wages Lag?142Amplitude and Patterns of Wage Cycles145Cycle Amplitudes145Cycle Patterns156Timing Relations156Amplitudes156Timing Relations156Amplitudes156Amplitudes156Amplitudes156Amplitudes156Amplitudes156<							
Age Differentials       89         Wages for Youth, Excluding Apprentices       89         Compensation for Apprentices       91         Sex Differentials       93         Nature and Extent       93         1871-1913       95         1913-1945       95         An Interpretation of Sex Differentials       99         Differentials Relating to Place of Employment       101         City-Size Differentials       101         Nature and Extent       101         Nature and Extent       101         Nature and Extent       101         Trends in City-Size Differentials       102         Some Determinants of City-Size Differentials       106         Nature and Extent       106         Nature and Extent       108         Some Determinants of Regional Differentials       108         Industrial Differentials       109         Nature and Extent       109         Nature and Extent       109         Nature and Extent       109         Industrial Differentials       113         Some Determinants of Industrial Differentials       119         Qcycles in Money Wages       119         General       119		Some Determinants of Skill Differentials	•	•	·	·	
Wages for Youth, Excluding Apprentices       89         Compensation for Apprentices       91         Sex Differentials       93         Nature and Extent       93         1871-1913       95         1913-1945       95         An Interpretation of Sex Differentials       99         Differentials Relating to Place of Employment       101         City-Size Differentials       101         Nature and Extent       101         Trends in City-Size Differentials       102         Some Determinants of City-Size Differentials       105         Regional Differentials       106         Nature and Extent       106         Nature and Extent       106         Nature and Extent       106         Nature and Extent       109         Some Determinants of Industrial Differentials       113         Some Determinants of Industrial Differentials       119         Qycles in Money Wages       119         <							
Compensation for Apprentices       91         Sex Differentials       93         Nature and Extent       93         1871-1913       95         1913-1945       95         An Interpretation of Sex Differentials       99         Differentials Relating to Place of Employment       101         City-Size Differentials       101         Nature and Extent       101         Trends in City-Size Differentials       102         Some Determinants of City-Size Differentials       105         Regional Differentials       106         Nature and Extent       106         Nature and Extent       106         Nature and Extent       106         Nature and Extent       106         Trends in Regional Differentials       108         Some Determinants of Regional Differentials       109         Nature and Extent       109         Trends in Industrial Differentials       113         Some Determinants of Industrial Differentials       113         Some Determinants of Industrial Differentials       1							
Sex Differentials       93         Nature and Extent       93         1871-1913       95         1913-1945       95         An Interpretation of Sex Differentials       101         Nature and Extent       101         Trends in Regional Differentials       106         Nature and Extent       108         Industrial Differentials       109         Nature and Extent       109         Nature and Extent       109         Trends in Industrial Differentials       113         Some Determinants of Industrial Differentials       115         4. CYCLICAL BEHAVIOR OF WAGES       119         Cycles in Money Wages       125         Conformity of Wage Cycles       125         The Lag of Wages behind Cyclical Turns       135 </td <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>							
Nature and Extent       93         1871-1913       95         1913-1945       95         An Interpretation of Sex Differentials       99         Differentials Relating to Place of Employment       101         City-Size Differentials       101         Nature and Extent       101         Trends in City-Size Differentials       102         Some Determinants of City-Size Differentials       106         Nature and Extent       106         Nature and Extent       106         Nature and Extent       106         Trends in Regional Differentials       108         Some Determinants of Regional Differentials       108         Industrial Differentials       109         Nature and Extent       109         Vends in Industrial Differentials       113         Some Determinants of Industrial Differentials       115         4. CYCLICAL BEHAVIOR OF WAGES       119         General       119         Wages and Turning Points in Business Conditions       125         Conformity of Wage Cycles       <							
1871-1913       95         1913-1945       95         An Interpretation of Sex Differentials       99         Differentials Relating to Place of Employment       101         City-Size Differentials       101         Nature and Extent       101         Trends in City-Size Differentials       102         Some Determinants of City-Size Differentials       105         Regional Differentials       106         Nature and Extent       106         Nature and Extent       106         Trends in Regional Differentials       108         Some Determinants of Regional Differentials       108         Some Determinants of Regional Differentials       109         Nature and Extent       109         Some Determinants of Industrial Differentials       113         Some Determinants of Industrial Differentials       115         4. CYCLICAL BEHAVIOR OF WAGES       119         General       119         Wages and Turning Points in Business Conditions       125         Conformity of Wage Cycles       125							
1913-1945       95         An Interpretation of Sex Differentials       99         Differentials Relating to Place of Employment       101         City-Size Differentials       101         Nature and Extent       101         Trends in City-Size Differentials       102         Some Determinants of City-Size Differentials       105         Regional Differentials       106         Nature and Extent       106         Nature and Extent       106         Nature and Extent       106         Some Determinants of Regional Differentials       108         Some Determinants of Regional Differentials       109         Nature and Extent       109         Nature and Extent       109         Trends in Industrial Differentials       113         Some Determinants of Industrial Differentials       119         Cycles in Money Wages       119         General       119         Wages and Turning Points in Business Conditions       125         Conformity of Wage Cycles       125         The Lag of Wages behind Cyclical Turns       135         Why do Wages Lag?       142         Amplitude and Patterns of Wage Cycles       145         Cycle Amplitudes       156 <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>							
An Interpretation of Sex Differentials       99         Differentials Relating to Place of Employment       101         City-Size Differentials       101         Nature and Extent       101         Trends in City-Size Differentials       102         Some Determinants of City-Size Differentials       105         Regional Differentials       106         Nature and Extent       106         Nature and Extent       106         Nature and Extent       106         Some Determinants of Regional Differentials       108         Some Determinants of Regional Differentials       108         Industrial Differentials       109         Nature and Extent       109         Nature and Extent       109         Trends in Industrial Differentials       113         Some Determinants of Industrial Differentials       113         Some Determinants of Industrial Differentials       119         Qycles in Money Wages       119         General       119         Wages and Turning Points in Business Conditions       125         Conformity of Wage Cycles       125         The Lag of Wages behind Cyclical Turns       135         Why do Wages Lag?       142         Amplitude and Patterns o							
Differentials Relating to Place of Employment       101         City-Size Differentials       101         Nature and Extent       101         Trends in City-Size Differentials       102         Some Determinants of City-Size Differentials       105         Regional Differentials       106         Nature and Extent       106         Trends in Regional Differentials       108         Some Determinants of Regional Differentials       108         Industrial Differentials       109         Nature and Extent       109         Nature and Extent       109         Nature and Extent       109         Trends in Industrial Differentials       113         Some Determinants of Industrial Differentials       115         4. CYCLICAL BEHAVIOR OF WAGES       119         Cycles in Money Wages       119         General       119         Wages and Turning Points in Business Conditions       125         Conformity of Wage Cycles       125         The Lag of Wages behind Cyclical Turns       135         Why do Wages Lag?       142         Amplitude and Patterns of Wage Cycles       145         Cycle Patterns       154         Wage Cycles and Employment       156							
City-Size Differentials       101         Nature and Extent       101         Trends in City-Size Differentials       102         Some Determinants of City-Size Differentials       105         Regional Differentials       106         Nature and Extent       106         Trends in Regional Differentials       106         Nature and Extent       106         Trends in Regional Differentials       108         Some Determinants of Regional Differentials       108         Industrial Differentials       109         Nature and Extent       109         Trends in Industrial Differentials       113         Some Determinants of Industrial Differentials       115         4. CYCLICAL BEHAVIOR OF WAGES       119         Cycles in Money Wages       119         General       119         Wages and Turning Points in Business Conditions       125         Conformity of Wage Cycles       125         The Lag of Wages behind Cyclical Turns       135         Why do Wages Lag?       142         Amplitude and Patterns of Wage Cycles       145         Cycle Amplitudes       154         Wage Cycles and Employment       156         Timing Relations       158      <							
Nature and Extent101Trends in City-Size Differentials102Some Determinants of City-Size Differentials105Regional Differentials106Nature and Extent106Trends in Regional Differentials108Some Determinants of Regional Differentials108Industrial Differentials109Nature and Extent109Nature and Extent109Trends in Industrial Differentials113Some Determinants of Industrial Differentials113Some Determinants of Industrial Differentials119Cycles in Money Wages119General119Wages and Turning Points in Business Conditions125Conformity of Wage Cycles125The Lag of Wages behind Cyclical Turns135Why do Wages Lag?142Amplitude and Patterns of Wage Cycles145Cycle Patterns156Timing Relations156Timing Relations156Amplitudes158Wages, Employment, and Payroll161Cycles in Wage Rates and Prices165							101
Nature and Extent101Trends in City-Size Differentials102Some Determinants of City-Size Differentials105Regional Differentials106Nature and Extent106Trends in Regional Differentials108Some Determinants of Regional Differentials108Industrial Differentials109Nature and Extent109Nature and Extent109Trends in Industrial Differentials113Some Determinants of Industrial Differentials113Some Determinants of Industrial Differentials119Cycles in Money Wages119General119Wages and Turning Points in Business Conditions125Conformity of Wage Cycles125The Lag of Wages behind Cyclical Turns135Why do Wages Lag?142Amplitude and Patterns of Wage Cycles145Cycle Patterns156Timing Relations156Timing Relations156Amplitudes158Wages, Employment, and Payroll161Cycles in Wage Rates and Prices165		City-Size Differentials			•		101
Some Determinants of City-Size Differentials       105         Regional Differentials       106         Nature and Extent       106         Trends in Regional Differentials       108         Some Determinants of Regional Differentials       108         Industrial Differentials       109         Nature and Extent       109         Nature and Extent       109         Trends in Industrial Differentials       113         Some Determinants of Industrial Differentials       113         Some Determinants of Industrial Differentials       119         Cycles in Money Wages       119         General       119         Wages and Turning Points in Business Conditions       125         Conformity of Wages Lag?       142         Amplitude and Patterns of Wage Cycles       145         Cycle Amplitudes       145         Cycle Patterns       156         Timing Relations       156         Amplitudes       156         Mages, Employment, and Payroll       161         Cycles in Wage Rates and Prices       165							101
Some Determinants of City-Size Differentials105Regional Differentials106Nature and Extent106Trends in Regional Differentials108Some Determinants of Regional Differentials108Industrial Differentials109Nature and Extent109Trends in Industrial Differentials113Some Determinants of Industrial Differentials113Some Determinants of Industrial Differentials1154. CYCLICAL BEHAVIOR OF WAGES119Cycles in Money Wages119General119Wages and Turning Points in Business Conditions125Conformity of Wages behind Cyclical Turns135Why do Wages Lag?142Amplitude and Patterns of Wage Cycles145Cycle Patterns156Timing Relations156Amplitudes156Mages, Employment, and Payroll161Cycles in Wage Rates and Prices165		Trends in City-Size Differentials					102
Regional Differentials       106         Nature and Extent       106         Trends in Regional Differentials       108         Some Determinants of Regional Differentials       108         Industrial Differentials       109         Nature and Extent       109         Nature and Extent       109         Trends in Industrial Differentials       113         Some Determinants of Industrial Differentials       113         Some Determinants of Industrial Differentials       119         Cycles in Money Wages       119         General       119         Wages and Turning Points in Business Conditions       125         Conformity of Wages Lag?       142         Amplitude and Patterns of Wage Cycles       142         Amplitude and Patterns of Wage Cycles       145         Cycle Patterns       154         Wage Cycles and Employment       156         Timing Relations       158         Wages, Employment, and Payroll       161         Cycles in Wage Rates and Prices       165							105
Nature and Extent106Trends in Regional Differentials108Some Determinants of Regional Differentials108Industrial Differentials109Nature and Extent109Trends in Industrial Differentials113Some Determinants of Industrial Differentials113Some Determinants of Industrial Differentials1154. CYCLICAL BEHAVIOR OF WAGES119Cycles in Money Wages119General119Wages and Turning Points in Business Conditions125Conformity of Wage Cycles125The Lag of Wages behind Cyclical Turns135Why do Wages Lag?142Amplitude and Patterns of Wage Cycles145Cycle Patterns154Wage Cycles and Employment156Timing Relations158Wages, Employment, and Payroll161Cycles in Wage Rates and Prices165							
Trends in Regional Differentials       108         Some Determinants of Regional Differentials       108         Industrial Differentials       109         Nature and Extent       109         Trends in Industrial Differentials       109         Trends in Industrial Differentials       113         Some Determinants of Industrial Differentials       113         Some Determinants of Industrial Differentials       119         Cycles in Money Wages       119         General       119         Wages and Turning Points in Business Conditions       125         Conformity of Wage Cycles       125         The Lag of Wages behind Cyclical Turns       135         Why do Wages Lag?       142         Amplitude and Patterns of Wage Cycles       145         Cycle Patterns       154         Wage Cycles and Employment       156         Timing Relations       156         Maplitudes       158         Wages, Employment, and Payroll       161         Cycles in Wage Rates and Prices       165							
Some Determinants of Regional Differentials       108         Industrial Differentials       109         Nature and Extent       109         Trends in Industrial Differentials       113         Some Determinants of Industrial Differentials       113         Some Determinants of Industrial Differentials       113         4. CYCLICAL BEHAVIOR OF WAGES       119         Cycles in Money Wages       119         General       119         Wages and Turning Points in Business Conditions       125         Conformity of Wage Cycles       125         The Lag of Wages behind Cyclical Turns       135         Why do Wages Lag?       142         Amplitude and Patterns of Wage Cycles       145         Cycle Amplitudes       154         Wage Cycles and Employment       156         Timing Relations       158         Wages, Employment, and Payroll       161         Cycles in Wage Rates and Prices       165							
Industrial Differentials       109         Nature and Extent       109         Trends in Industrial Differentials       113         Some Determinants of Industrial Differentials       115         4. CYCLICAL BEHAVIOR OF WAGES       119         Cycles in Money Wages       119         General       119         Wages and Turning Points in Business Conditions       125         Conformity of Wage Cycles       125         The Lag of Wages behind Cyclical Turns       135         Why do Wages Lag?       142         Amplitude and Patterns of Wage Cycles       145         Cycle Patterns       154         Wage Cycles and Employment       156         Timing Relations       158         Wages, Employment, and Payroll       161         Cycles in Wage Rates and Prices       165							
Nature and Extent       109         Trends in Industrial Differentials       113         Some Determinants of Industrial Differentials       115         4. CYCLICAL BEHAVIOR OF WAGES       119         Cycles in Money Wages       119         General       119         Wages and Turning Points in Business Conditions       125         Conformity of Wage Cycles       125         The Lag of Wages behind Cyclical Turns       135         Why do Wages Lag?       142         Amplitude and Patterns of Wage Cycles       145         Cycle Patterns       154         Wage Cycles and Employment       156         Timing Relations       158         Wages, Employment, and Payroll       161         Cycles in Wage Rates and Prices       165							
Trends in Industrial Differentials113Some Determinants of Industrial Differentials1154. CYCLICAL BEHAVIOR OF WAGES119Cycles in Money Wages119General119General119Wages and Turning Points in Business Conditions125Conformity of Wage Cycles125The Lag of Wages behind Cyclical Turns135Why do Wages Lag?142Amplitude and Patterns of Wage Cycles145Cycle Amplitudes154Wage Cycles and Employment156Timing Relations156Maplitudes156Amplitudes156Timing Relations158Wages, Employment, and Payroll161Cycles in Wage Rates and Prices165							
Some Determinants of Industrial Differentials       115         4. CYCLICAL BEHAVIOR OF WAGES       119         Cycles in Money Wages       119         General       119         Wages and Turning Points in Business Conditions       125         Conformity of Wage Cycles       125         The Lag of Wages behind Cyclical Turns       135         Why do Wages Lag?       142         Amplitude and Patterns of Wage Cycles       145         Cycle Patterns       154         Wage Cycles and Employment       156         Timing Relations       158         Wages, Employment, and Payroll       161         Cycles in Wage Rates and Prices       165							
4. CYCLICAL BEHAVIOR OF WAGES       119         Cycles in Money Wages       119         General       119         Wages and Turning Points in Business Conditions       125         Conformity of Wage Cycles       125         The Lag of Wages behind Cyclical Turns       135         Why do Wages Lag?       142         Amplitude and Patterns of Wage Cycles       145         Cycle Amplitudes       145         Cycle Patterns       154         Wage Cycles and Employment       156         Timing Relations       158         Wages, Employment, and Payroll       161         Cycles in Wage Rates and Prices       165							
Cycles in Money Wages119General119Wages and Turning Points in Business Conditions125Conformity of Wage Cycles125The Lag of Wages behind Cyclical Turns135Why do Wages Lag?142Amplitude and Patterns of Wage Cycles145Cycle Amplitudes145Cycle Patterns154Wage Cycles and Employment156Timing Relations158Wages, Employment, and Payroll161Cycles in Wage Rates and Prices165		Some Determinants of Industrial Differentials		•	•	•	112
Cycles in Money Wages119General119Wages and Turning Points in Business Conditions125Conformity of Wage Cycles125The Lag of Wages behind Cyclical Turns135Why do Wages Lag?142Amplitude and Patterns of Wage Cycles145Cycle Amplitudes145Cycle Patterns154Wage Cycles and Employment156Timing Relations158Wages, Employment, and Payroll161Cycles in Wage Rates and Prices165	4	CYCLICAL BEHAVIOR OF WAGES					119
General119Wages and Turning Points in Business Conditions125Conformity of Wage Cycles125The Lag of Wages behind Cyclical Turns135Why do Wages Lag?142Amplitude and Patterns of Wage Cycles145Cycle Amplitudes145Cycle Patterns154Wage Cycles and Employment156Timing Relations156Maplitudes156Maplitudes158Wages, Employment, and Payroll161Cycles in Wage Rates and Prices165	••						
Wages and Turning Points in Business Conditions125Conformity of Wage Cycles125The Lag of Wages behind Cyclical Turns135Why do Wages Lag?142Amplitude and Patterns of Wage Cycles145Cycle Amplitudes145Cycle Patterns154Wage Cycles and Employment156Timing Relations156Amplitudes156Mages, Employment, and Payroll161Cycles in Wage Rates and Prices165					•	•	
Conformity of Wage Cycles125The Lag of Wages behind Cyclical Turns135Why do Wages Lag?142Amplitude and Patterns of Wage Cycles145Cycle Amplitudes145Cycle Patterns154Wage Cycles and Employment156Timing Relations156Amplitudes158Wages, Employment, and Payroll161Cycles in Wage Rates and Prices165		General			•	•	
The Lag of Wages behind Cyclical Turns135Why do Wages Lag?142Amplitude and Patterns of Wage Cycles145Cycle Amplitudes145Cycle Patterns145Cycles and Employment154Wage Cycles and Employment156Timing Relations156Amplitudes158Wages, Employment, and Payroll161Cycles in Wage Rates and Prices165		Wages and Turning Points in Business Condition	15	•	•	•	125
Why do Wages Lag?142Amplitude and Patterns of Wage Cycles145Cycle Amplitudes145Cycle Patterns145Cycles and Employment154Wage Cycles and Employment156Timing Relations156Amplitudes158Wages, Employment, and Payroll161Cycles in Wage Rates and Prices165		Conformity of Wage Cycles	•	•	•	•	125
Amplitude and Patterns of Wage Cycles145Cycle Amplitudes145Cycle Patterns154Wage Cycles and Employment156Timing Relations156Amplitudes158Wages, Employment, and Payroll161Cycles in Wage Rates and Prices165		The Lag of Wages behind Cyclical Turns .	·	•	•	•	135
Cycle Amplitudes145Cycle Patterns154Wage Cycles and Employment156Timing Relations156Amplitudes158Wages, Employment, and Payroll161Cycles in Wage Rates and Prices165			•	•	•	•	
Cycle Patterns154Wage Cycles and Employment156Timing Relations156Amplitudes158Wages, Employment, and Payroll161Cycles in Wage Rates and Prices165			•	•	•	•	
Wage Cycles and Employment156Timing Relations156Amplitudes158Wages, Employment, and Payroll161Cycles in Wage Rates and Prices165		Cycle Amplitudes	•	•	•	•	145
Wage Cycles and Employment156Timing Relations156Amplitudes158Wages, Employment, and Payroll161Cycles in Wage Rates and Prices165		Cycle Patterns					154
Timing Relations156Amplitudes158Wages, Employment, and Payroll161Cycles in Wage Rates and Prices165						•	156
Amplitudes158Wages, Employment, and Payroll161Cycles in Wage Rates and Prices165							156
Wages, Employment, and Payroll		Amplitudes	•		•		
Cycles in Wage Rates and Prices							
					•	•	
			•	•	•	•	

cc	ONTE	אדs									xv
Cycles in Wage Rates and	1 Who	olesa	le F	Price	es						165
Cyclical Behavior, Ann	ual S	eries	18	71-1	944	1	•	•		•	165
Turning Points 1924-1	939		,			•					167
Turning Points, 1924-19 Amplitudes, 1924-1933	/ 5/	•	•	• •		•	•	•	•	•	171
Wage Rates and Cost-I	Drice	Rela	tion		16	•	•	•	•	•	173
										•	176
Wage Rates and Living C Prior to World War I	20313	•	•	• •		•	•	•	•	•	176
1924-1933	•	•	•	• •		•	•	•	•	•	177
Cycles in Real Wages	•	•	•	• •	•	•	•	•	•	•	178
Real Wages and Turning	Point	• • in	R114	sine	(	'vc1	ec	•	•	•	178
Real Wages and Turning	I OIII	.5 111	Du	SIIIC	33 5	.,		•	•	•	178
Real Wage Cycles The Lagging of Real W	• /age ]	• Furn	•	• •	•	•	•	•	•	•	182
Amplitudes of Real Wage	age 1		3	• •	•	•	•	•	•	•	183
Money Wages and Real Wa			~ +1		-	4 D	10 <b>m</b> r				
Money wages and Real wa	iges u	urm	gu		rrea	ιD	epi	C221	U	•	10/
5. WAGES DURING WAR, INFLATIO	ON, AI	ND L	лст	ATC	RSF	ΠP	•	•	•	•	191
Wages in World War I .											191
											191
The Labor Market .						•					191
Wage Policies											195
Money Wage Levels											197
Wage Differentials											202
Skill Differentials				•							202
Age Differentials											203
Sex Differentials											205
Industrial Differentials											206
Wages and Prices									•	•	208
Real Wages								•	•	•	209
Wages in the Great Inflation	n .	•						•	•	•	214
Money Wage Levels		•	•	•			•	•	•	•	214
Wage Differentials							•	•	•	•	219
Wages and Prices	•	•	•	•	•	•	•	•	•	•	220
Wages and Prices Wages and Wholesale 1	Prices	•		•			•	•	•	•	220
Wages and Living Cost	s						•	•	•	•	221
						•	•	•	•	•	223
Wage Determination d							-	•		•	223
Statistical Computation	•									•	226
The Behavior of Real V					Inf	Iati	on	•	•	•	226
Real Wages and Econo								flati	on	•	229
Wages under National Socia			,		5			العمين		·	233
General		•	•	•	•	•	•	•	•	•	233
Labor Market Changes		•	•	•	•	•	•	•	•	•	233
Wage and Labor Alloc		Poli	cies	•	•	•	•	•	•	•	235 235
wage and Labor Alloc	ation	TOIL	C1C2	' '	•	•	•	•	•	•	233

## xv

xvi	C	CON	ITE	NTS									
Changes in Money V	Van	ρŢ	أمررما	0									238
Wage Rates .									•		•	•	238
Earnings	•	•	•	•	•	•	•	•	·	•	•	•	230
Wage Changes and	• w	י מספ	• Cc	• •	.1	•	•			•		•	239
Wage Differentials		ugu		/1111	,	•	•	•	•	•	•	•	240
Wage Differentials Skill Differentials	•	•	•	•	•	•	•		•	•	•	•	245
Sex Differentials				•				•	•	•	•	•	245
Industrial Differen							•	•	•		•	•	249
Irregular and Reg							•	•	•	•	•	•	251
								•	•	•	•	•	254
Wages and Prices Wage Rates and V	Vho	lesz	ile l	Price		•	•	•	·	•	•	·	254
Cost of Living .										•	•	•	256
Real Wages									•	•	•	•	261
Wage Rates .								•	•	•	•	•	261
Earnings										•	•	•	263
8_	•	•	•	•	•	•	•	•	·	•	•	•	205
6. WAGES IN GERMANY, GRI	EAT	Bri	ITAI	N, A	ND	THE	: U	NITI	ED	Sta	TES	•	266
General			•								•		266
Long-Term Trends .	•	•				•		•			•		268
Money Wages .	•	•		•	•						•	•	268
Wages and Prices		•	•	•	•	•		•	•		•		275
Real Wages	•	•	•	•	•	•	•	•		•	•		277
Wage Differentials .	•	•	•	•	•	•	•	•	•	•			282
General			•		•	•		•		•		•	282
Skill Differentials					•						•	•	283
Age Differentials .											•	•	286
Sex Differentials .	•	•	•	•	•	•	•	•	•	•	•	•	288
City-Size, Regional,	and	In	dus	trial	Di	ffer	enti	als	•	•	•	•	289
Conclusions	•	•	•	•	•	•	•	•	•	•	•	•	290
Cyclical Behavior .	•	•	•	•	•	•	•	•	•	•	•	•	290
Money Wages .			•		•						•	•	290
Conformity . Timing	•	•	٠	•	•	•	•	•	•	•	•	•	290
Timing	•	•	•	•	•	•	•	•	•	•	•	•	292
Amplitudes .	•	•	•	•	•	•	·	•	•	•	•	•	294
Wage Cycles and	Lab	or	Ma	rket	Co	ondi	tior	18	•	•	•	•	297
Wages and Prices	•	•	•	•	•	•	•	•	•	•	•	٠	300
Real Wages	•	•	•	•	•	٠	•	•	•	•	•	•	301
Conformity	•	•	•	•	•	•	•	•	•	•	•	•	301
Timing	•	•	·	•	•	•	•	•	٠	•	٠	٠	303
Amplitudes .	1 <del>-</del>		•	·	·	•	•	•	•	•	٠	٠	304
Wages during War and					•	•	•	•	٠	•	٠	٠	305
General			•		•	•	•	٠	•	•	•	•	305
World War I	•		•		•	•	•	•	•	•	•	•	306
Postwar Adjustment	S	•	•			•	•	•	•		•		309

сo	NT	EN	TS
----	----	----	----

The Way Out of	the	GI	reat	De	pre	ssio	n				311
World War II					-						
Money Wages											
Living Costs											319
Real Wages											320
Comparison of											
-											
APPENDIX A: Basic Tal	bles		•								325
APPENDIX B: Chronolo											
AUTHOR INDEX	•				•						481
SUBJECT INDEX											483

.

# TABLES

1.	Population Changes in Germany, Selected Years, 1871-1945 .	16
2.	Real National Income and Industrial Production in Germany,	
	Selected Years, 1871-1939	17
3.	Industrial Production, Germany and Other Countries, Selected	
	Years, 1870-1913; and All Years, 1919-1939	20
4.	Real Income per Capita and Production per Capita in Germany,	
	Selected Years, 1871-1939	22
5.	Real National Income per Capita in Germany, Great Britain,	
	and the United States, Selected Years, 1871-1939	23
6	Labor Force and Population, by Sex, Census Years, 1882-1939	25
	Labor Force, by Major Industrial Groups, Census Years,	
	1882-1939	26
8	Employment in Major Manufacturing Industries, Mining and	20
0.	Transportation, Selected Years, 1882-1939	27
9.	Labor Force, by Socioeconomic Status, Census Years, 1882-1939	28
	Total Labor Force and Wage Earners in Industry, Census	20
10.	Years, 1882-1939	29
11.	Membership of German Workers in Three Largest Unions,	
	1891-1931	32
12.	Union Membership of German Workers and White-Collar	
	Employees, by Affiliation, 1922, 1929, and 1932	34
13.	Collective Agreements in Force during Selected Years, 1913-	
	1928	42
14.	Average Working Hours per Week, 1924-1942	48
	Hourly and Weekly Wages, Selected Years, 1871-1944	53
	Weekly Gross and Net Earnings, 1913 and 1924-1944	58
	Real Wages and per Capita Production, Selected Years, 1871-	
		71
18.	Skill Differentials, Based on Average Weekly Wage Rates in	
	Eight Industries, 1913, and April 1922 to June 1924	84
19.	Age Differentials, Based on Hourly Rates of Unskilled Textile	
	Workers in Baden, 1923-1933	90
20.	Sex Differentials, Based on Wage Rates in the Textile Industry,	
	1913, and April 1922 to September 1924	97
<b>2</b> 1.	Sex Differentials, in Three Industries, Selected Years, 1913-1943	98
	Sex Differentials, in Three Industries in Thuringia, 1914, 1920,	
	and 1926	99
23.	Average Hourly Wage Rates, Typical Occupations in Selected	
	Industries and Cities, December 1929	102

24.	Average Hourly Earnings in Cities of Varying Size, 1941	103
25.	Hourly Wage Rates of Masons in Cities of Different Size, 1887,	
	1913-1914, and 1929	104
26.	Regional Differentials, Based on Average Hourly Earnings,	
	1885, 1905, 1929, and 1941	107
27.	Regional Differentials, Based on Wage Rates for Selected	
	Occupations, Breslau and Rhineland Cities, 1913 and 1929	108
28.	Hourly Wage Rates of Skilled and Unskilled Male Workers,	
	by Industry, 1913, 1925, 1930, and 1939	110
29.	Hourly Wage Rates and Earnings, Skilled and Unskilled Male	
	Workers, by Industry, 1939	113
30.	Total Personal Income, by Source, 1913 and 1925-1940	122
31.	Total Wages and Salaries, 1929-1940	123
32.	Indexes of Conformity, Wage Rates, Annual Series, 1871-1932	128
	Effective Hourly Wage Rates, Four Industries, 1886-1903	129
	Hourly Union Rates, by Months, 1924-1933	131
	Indexes of Conformity, Earnings, Annual Series, 1871-1932	134
	Average Earnings per Day or Shift, 1871-1882	140
	Leads and Lags of Miners' Shift Earnings, Selected Centers,	
	Quarterly, 1890-1914 and 1924-1933	141
38.	Amplitudes in Shift Earnings of Hewers and Haulers, 1889-1913	
	and 1924-1932	152
39.	Cyclical Declines in Wage Rates, Prices, and Employment,	
	from 1929 to 1932	160
40.	Cyclical Changes in the Industrial Payroll and Its Major	
	Components, 1929-1932	163
41.	Timing of Cyclical Turning Points in Wage Rates and Prices,	
	1924-1932	169
42.	Amplitudes of Selected Wage Rates and Prices, 1926-1932	172
43.	Effective Hourly Real Wage Rates, Four Industries, 1886-1903	17 <b>9</b>
	Hourly Real Union Rates, by Months, 1924-1933	181
	Amplitudes of Money and Real Wages, 1924-1932	185
46.	Total Days Worked, 370 Establishments, by Sex, March and	
	September 1914-1918	194
47.	Hourly Wage Rates in Magdeburg, Two Industries, January	
	and July 1914-1918	198
48.	Average Hourly Earnings, 479 Establishments in Bavaria, by	
	Industry, Skill, Age, and Sex; Change from June 1914 to	
	October 1918	199
49.	Average Daily Earnings, 370 Establishments, by Sex and	200
50	Industry, March and September 1914-1918	200
50.	Skill, Age, and Sex Differentials, Based on Average Hourly	
	Earnings, 479 Establishments in Bavaria, June 1914 and October 1918	204
		204

xix

TA	BL	ES
----	----	----

51.	Sex Differentials, Based on Average Daily Earnings in 370	
52.	Establishments, March and September 1914-1918	206
	1913-1923	210
53.	Average Daily Real Earnings, 370 Establishments, March and	
54	September 1914-1918	211
54.	1914 to September 1918	212
55.	Skill Differentials, Based on Weekly Wage Rates, 1913, and	
	April 1922 to December 1923	218
	Changes in Wages and Prices, Selected Periods, 1913-1923.	220
57.	Monthly Real Salaries of Government Employees; in Three	220
50	Classifications, Large Cities, 1913-1923	230 233
	Per Capita Consumption of Selected Goods, 1913 and 1920-1923 Average Hourly Wage Rates, and Average Hourly and Weekly	233
J <b>9</b> ,	Earnings, 1932-1944	239
60	Average Hourly and Average Weekly Earnings, All Industry,	237
	1933-1943	241
61.	Average Hourly and Weekly Earnings, Major Classifications,	
	Quarterly, December 1935 to March 1943	242
62.	Skill Differentials, Average Hourly and Weekly Earnings, by	
	Industry, Selected Years, 1936-1944	244
63.	Sex Differentials, Average Hourly and Weekly Earnings, by Industry, Selected Years, 1936-1944	248
64.	Average Hourly and Weekly Earnings, Nineteen Industries,	
	1936, 1939, and March 1944	250
65.	Wage Rates and Prices, 1929-1944	255
66.	Food Costs, by Months, 1939-1943	258
67.	Average Real Wage Rates and Earnings, All Industry, 1932-1944	262
	Weekly Real Earnings, Adjusted, 1929 and 1932-1944	264
69.	Hours Worked per Week, Germany, Great Britain, and the	
	United States, Selected Years, 1871-1944	275
70.	Wholesale Prices in Germany, Great Britain, and the United	0.74
-1	States, Selected Years, 1871-1944	276
/1.	Percentage Change of Money Wages during the Great Depres-	293
72	sion, Germany, Great Britain, and the United States	295
12.	Germany, Great Britain, and the United States	304
73.	Money Wages in Germany, Great Britain, and the United	
	States, 1914-1923	307
74.	Cost of Living in Germany, Great Britain, and the United States,	
	1914-1923	308
75.	Real Wages in Germany, Great Britain, and the United States,	
	1914-1923	310

xx

76.	Money Wages in Germany, Great Britain, and the United	
	States, 1932-1945	312
77.	Cost of Living in Germany, Great Britain, and the United	
	States, 1932-1944	314
78.	Real Wages in Germany, Great Britain, and the United States,	
	1932-1945	316
79.	Coal Miners' Earnings in Two World Wars: Germany, Great	
	Britain, and the United States	321

.

# APPENDIX TABLES

A-1.	Indicators of Business and Labor Market Conditions in	
	Germany, 1870-1944	325
A-2.	Money Wages, All Industry, 1871-1944.	32 <b>9</b>
A-3.	Wages of Printers, 1871-1943	333
A-4.	Hourly Wage Rates of Building Workers, 1871-1943.	335
	Weekly Wage Rates of Building Workers, 1871-1930	339
	Average Earnings per Shift, Hewers and Haulers, Ten Centers,	
	1889-1932	342
<b>A-</b> 7.	Average Earnings per Shift, Mine Workers above Ground,	
	Ten Centers, 1889-1932	344
A-8.	Earnings of Miners and Metalworkers, 1871-1943	346
	Wage Rates and Earnings in the Cotton Spinning Industry in	
	Hof, 1871-1913	350
A-10.	Weekly Earnings in Eleven Hosiery Factories, Erz Mountains,	
	1890-1913, and 1924-1928	352
A-11.	Estimates of Living Cost, 1871-1913	354
A-12.	Real Wages in Printing, Building, and Mining, 1871-1913,	
	and 1924-1943	357
A-13.	Real Wages and per Capita Production, All Industry,	
	1871-1944	361
A-14.	Skill Differentials, 1871-1943	363
A-15.	Earnings of Men and Women in Selected Industries, 1880-1903	366
A-16.	Sex Differentials, Based on Wages in Selected Industries,	
	1880-1913	368
A-17.	Sex Differentials in the Mining Industry, Workers above	
	Ground, 1886-1913	370
A-18.	Average Hourly Earnings by Regions, of Masons, 1885, 1905,	
	and 1925, and of Unskilled Workers, All Industry, 1941	371
A-19.	Union Rates and Average Hourly Earnings for Time and	
	Piece Workers, Selected Industries, 1928-1929	372
A-20.	Amplitudes and Conformity Indexes of Wage Rates during	
	Reference Cycles, Annual Series, 1871-1913 and 1924-1932	374
A-21.	Union Wage Rates of Skilled Male Workers by Industry,	
	Monthly, 1924-1932	376
A-22.	Amplitudes and Conformity Indexes of Hourly Wage Rates,	
	Reference Cycles, Monthly Series, January 1924 to August	
	1932	384
A-23.	Amplitudes and Conformity Indexes of Earnings, Reference	<b>a</b> a <b>a</b>
	Cycles, Annual Series, 1871-1913 and 1924-1932	385

APPENDIX TABLES

A-24.	Shift Earnings of Miners, Selected Centers, by Quarters, 1889-1914 and 1924-1932	389
A-25.	Average Wage Rates and Earnings of German Coal Miners,	202
	by Quarters, 1924-1938	<b>39</b> 3
A-26.	Amplitudes and Conformity Indexes of Miners' Shift Earn- ings, Reference Cycles, Quarterly Series, 1890-1913 and	
	1924-1932	395
A-27.	Amplitudes of Miners' Shift Earnings, Specific Cycles, Annual Series, 1890-1913 and 1924-1932	397
A-28.	Employment Indicators, Adjusted for Seasonal Variation, by	
	Months, 1925-1934	<b>39</b> 8
A-29.	Production, Prices, and Other Variables Related to Earn-	
	ings of Dortmund Hard Coal Miners, 1871-1913 and 1924- 1932	403
A 30	Average Hourly Wage Rates, Cost of Living and Wholesale	405
A-30.	D to a her Manutha 1024 1020	406
A_31	Amplitudes and Conformity Indexes of Wage Rates, Cost of	-00
11-51.	Living, and Wholesale Prices, Reference Cycles, Monthly	
	Series, January 1924 to August 1932	417
A-32.	Wage Rates, Prices, and Production in Selected Industries,	
	1924-1934	418
A-33.	Cost of Living by Months, 1924-1945	422
	Real Earnings of German Coal Miners, by Quarters, 1924-1938	430
A-35.	Unemployment, Trade Union Members, by Months, 1913-	
	1924	432
A-36.	Average Hourly Earnings, 479 Establishments in Bavaria,	
	by Industry, Sex, and Skill, June 1914 and October 1918	433
<b>A-</b> 37.	Average Daily Earnings, 370 Establishments, by Sex and	
4 20	Industry, March and September, 1914-1918	434
A-38.	Average Earnings Per Shift, Krupp-Essen, by Sex, Age, and	126
A .20	Skill, Quarterly, 1914-1918	436
A-39.	Three Large Cities, 1913-1923	437
A-40	Average Weekly Rates, Selected Occupations, Annually	457
	1913-1919, and Monthly 1920-1923	438
<b>A-4</b> 1	Cost of Living, Wholesale Prices, and Dollar Exchange	
	Rates, by Months, 1913-1923	440
A-42.	Hourly and Weekly Wage Rates of Skilled and Unskilled	
	Workers, Weighted Averages of Eight Industries, 1913 and	
	1918-1923	446
A-43	. Weekly Wages of Skilled Male Workers, Selected Series	
	in Eight Industries, by Months, 1920-1922	449
A-44	. Weekly Wage Rates of Skilled and Unskilled Workers in	
	Industries, by Months, 1913, and April 1922 to January 1924	451

APPENDIX TABLES

<b>A-45</b> .	Hourly and Weekly Real Wage Rates of Skilled and Un- skilled Workers, Weighted Averages of Eight Industries,	
	by Months, 1919-1923	453
A-46.	Average Weekly Real Wage Rates of Skilled and Unskilled	
	Workers in Eight Industries, by Months, April 1922 to	
	December 1923	455
A-47	Average Hourly and Weekly Earnings in Twenty-two	100
	Industries by Sex and Skill, Selected Years, 1936-1944	457
A-48	Money Wages in Germany, Great Britain, and the United	157
11 10.	States, 1871-1913 and 1924-1944.	461
Δ_49	Living Costs in Germany, Great Britain, and the United	101
11 47.	States, 1871-1913 and 1924-1944.	464
4-50	Real Wages in Germany, Great Britain, and the United	707
A-30.	States, 1871-1913 and 1924-1944.	466
A-51	Hourly Money Wage Rates of Skilled and Unskilled Building	400
A-31.	Workers in Germany, Great Britain, and the United States,	
		468
A 57	Hourly Real Wage Rates of Skilled and Unskilled Building	400
A-J2.	Workers in Germany, Great Britain, and the United States,	
	1913-1914, and 1924-1944	469
A-53	Skill Differentials of Building Workers, in Germany, Great	407
A-33.	Britain, and the United States, 1904-1950	470
A -54	Earnings and Selected Economic Indicators, Federal German	4/0
A-34.	Republic, 1938 and 1947-1958	471
A-55	Annual Earnings in Major Industries, 1888-1913, and 1924-	471
n-55.	1939 (Grumbach-König Indexes)	472
<b>R_1</b>	Chronologies of German Business Cycles, 1870-1932	474
	Reference Cycle Turning Points, NBER and Spiethoff-Claus-	7/7
D-2.	1070 1022	478
R.2	Reference Cycle Turning Points, NBER, Clausing and	7/0
נייע.		479
	Wagemann, Monthly, 1923-1932	4/3

xxiv

# CHARTS

1.	Industrial Production, Germany and Other Countries, 1870-1939	19
2.	Hourly and Weekly Money Wages, All Industry, 1871-1944	52
3.	Wage Rates and Earnings, Printers and Building Workers,	
	1871-1913 and 1924-1943	59
4.	Earnings of Miners and Metal Workers, 1871-1913 and 1924-1943	60
	Wage Rates and Earnings, Textile Workers, 1871-1913	61
6.	Wage Rates and Prices, 1871-1913 and 1924-1944	64
7.	Cost of Living, 1871-1913	68
8.	Real Wages, 1871-1913 and 1924-1944	72
9.	Real Wages and Production, 1871-1944	76
10.	Skill Differentials and Cost of Living, 1871-1944	82
	Business and Labor Market Conditions, 1870-1944	120
12.	Wage Rates and Earnings in Selected Industries, 1871-1913 .	126
13.	Effective Hourly Wage Rates, Four Industries 1886-1903	130
14.	Average Hourly Money and Real Wage Rates, 17 Industries,	
	1924-1933	132
	Union Wage Rates of Skilled Men, 15 Industries, 1924-1932	133
16.	Wage Rates and Earnings of Coal Miners, Reich Area, 1924-	
	1937	136
17.	Average Shift Earnings of Coal Miners, Dortmund, Annual	
	and Quarterly Data, 1889-1913 and 1924-1932	149
18.	Shift Earnings of Hewers and Haulers, Selected Centers, 1884-	
	1913 and 1924-1932	151
19.	Shift Earnings and Total Employment in Ten Mining Centers,	
	1889-1913 and 1924-1932	161
20.	Average Earnings of Dortmund Miners, and Other Variables,	
	1871-1913 and 1924-1934	162
	Wage Rates and Wholesale Prices, 1871-1913 and 1924-1944	166
	Wages and Prices, 1924-1939	168
	Wages, Prices, and Production, Seven Industries, 1924-1934	174
	Effective Hourly Real Wage Rates, Four Industries, 1886-1903	180
25.	Real Wage Rates and Earnings of Coal Miners, Reich Area,	
	1924-1937	184
	Wages, and Prices of Consumers' Goods, 1924-1935	186
	Employment Indicators, 1924-1935	188
	Wages, Prices, and Unemployment, 1919-1923	216
	Wage-Price Ratios and Unemployment during the Inflation .	222
	Real Wages during the Inflation	228
31.	Cost of Living, by Major Components, 1939-1945	256

32.	Cost of Foods, 1939-1943	257
33.	Hourly Money Wages, Germany, Great Britain, and the	
	United States, 1871-1913 and 1924-1944	270
34.	Daily or Weekly Money Wages in Germany, Great Britain,	
	and the United States, 1871-1913 and 1924-1944	271
35.	Hourly Money Wages, Cost of Living, and Real Wages in	
	Germany, Great Britain, and the United States, 1924-1938	272
36.	Weekly Money Wages, Cost of Living, and Real Wages in	
	Germany, Great Britain, and the United States, 1924-1938	273
37.	Cost of Living in Germany, Great Britain, and the United States,	
	1871-1913 and 1924-1944	277
38.	Hourly Real Wages in Germany, Great Britain, and the United	
	States, 1871-1913 and 1924-1944	278
39.	Daily or Weekly Real Wages in Germany, Great Britain, and	
	the United States, 1871-1913 and 1924-1944	279
40.	Skill Differentials in the Building Industry and Cost of Living,	
	Germany, Great Britain, and the United States, 1904-1950 .	284
41.	Coal Miners' Earnings in Two Wars, Germany, Great Britain,	
	and the United States	318

## xxvi