

FOURTH EDITION

# THE ECONOMICS OF WORK AND PAY

Hamermesh/Rees



USED BOOK  
\$39.00

*Fourth Edition*

---

# THE ECONOMICS OF WORK AND PAY

**DANIEL S. HAMERMESH**

*Michigan State University*

**ALBERT REES**

*Alfred P. Sloan Foundation*

1817



HARPER & ROW, PUBLISHERS, New York  
Cambridge, Philadelphia, San Francisco, Washington,  
London, Mexico City, São Paulo, Singapore, Sydney

*Sponsoring Editor:* John Greenman  
*Project Editor:* Donna DeBenedictis  
*Cover Illustration and Design:* Hudson River Studio  
*Text Art:* Vantage Art, Inc.  
*Production Manager:* Jeanie Berke  
*Production Assistant:* Paula Roppolo  
*Compositor:* ComCom Division of Haddon Craftsmen, Inc.  
*Printer and Binder:* R. R. Donnelley & Sons Company  
*Cover Printer:* Lehigh Press

**The Economics of Work and Pay, Fourth Edition**

Copyright © 1988 by Harper & Row, Publishers, Inc.

All rights reserved. Printed in the United States of America. No part of this book may be used or reproduced in any manner whatsoever without written permission, except in the case of brief quotations embodied in critical articles and reviews. For information address Harper & Row, Publishers, Inc., 10 East 53d Street, New York, NY 10022.

**Library of Congress Cataloging-in-Publication Data**

Hamermesh, Daniel S.

The economics of work and pay / Daniel S. Hamermesh, Albert Rees.

—4th ed.

p. cm.

Includes bibliographical references and index.

ISBN 0-06-045356-7

1. Labor economics.

I. Rees, Albert, 1921–

II. Title.

HD4901.H18 1988

331—dc19

87-18355

CIP

---

# To the Instructor

This volume is a revised version of our *The Economics of Work and Pay*, Third Edition. Other than the standard updating, it differs by its introduction of algebraic analysis to supplement and complement the graphical presentation of theories of labor supply, human capital, and labor demand; by its introduction of 11 entirely new policy issues; by its addition of problems and questions at the end of each chapter; and by its inclusion of a number of very recent advances in labor economics. Among these advances are the concepts of efficiency wages and the share economy, especially as both pertain to cyclical fluctuations in the labor market; the analysis of facts on time use in the home and the market; and the integration of concepts of internal labor markets into theoretical labor economics through what has been termed the *new economics of personnel*.

With each theoretical discussion there is an examination of the data to which the theory applies and the econometric evidence that has been brought to bear on the theory. The supporting evidence is mainly based on studies of the labor market in the United States. In many cases, though, illustrations from research on other countries are used, and data on other countries are presented to help reduce the parochialism of the student. In all cases the empirical results are referenced specifically, as are the sources of data presented in the tables. However, if the study or data were produced by the U.S. Department of Labor, only a title reference is used.

Throughout the book we illustrate the theory with issues of labor market policy. The issues are designed to give students practice using the tools and analysis they have learned and to provide a sense of the many ways in which analytical labor economics is useful in the discussion of policy. The policy issues make excellent topics for those instructors who choose to assign term papers, and the references on which they are

based provide good springboards for students who are attempting to assemble a bibliography for such a paper.

*The Economics of Work and Pay* assumes that the student has had only a yearlong course in economic principles and is able to handle graphical analysis. Only a little math is used in the text. In many cases the figures are original, as they were in previous editions.

### ACKNOWLEDGMENTS

The book benefited greatly from the comments and criticisms of our colleagues and friends. The third and fourth editions were aided by comments from:

Steven Allen, *North Carolina State University*

Francine Blau, *University of Illinois—Urbana—Champaign*

George Borjas, *University of California—Santa Barbara*

Charles Brown, *University of Maryland*

Christopher Bruce, *University of Calgary*

Glen Cain, *University of Wisconsin—Madison*

Barry Chiswick, *University of Illinois—Chicago*

Henry Farber, *Massachusetts Institute of Technology*

T. Aldrich Finegan, *Vanderbilt University*

Alan Harrison, *McMaster University*

James Johannes, *University of Wisconsin*

George Johnson, *University of Michigan*

Duane Leigh, *Washington State University*

H. Gregg Lewis, *Duke University*

Thomas Michl, *Colgate University*

Jacob Mincer, *Columbia University*

Olivia Mitchell, *Cornell University*

George Neumann, *University of Iowa*

Ronald Oaxaca, *University of Arizona*

Tod Porter, *Youngstown State University*

James Ragan, *Kansas State University*

Sherwin Rosen, *University of Chicago*

Frank Stafford, *University of Michigan*

Joe Stone, *University of Oregon*

Barry Stregovsky, *Marquette University*

Michael Taussig, *Rutgers University*

John Wolfe, *Michigan State University*

Stephen Woodbury, *Michigan State University*

None of these scholars is in any way responsible for our conclusions or our errors. To each, though, we are deeply indebted.

**Daniel S. Hamermesh  
Albert Rees**



---

# To the Student

This book is about labor economics—the branch of economic analysis that deals with topics such as the supply of labor, the allocation of labor among uses, the extent and incidence of unemployment, and the determination of wages. Two questions help to define the field: Why is labor economics a separate branch of economics? How does labor economics differ from industrial relations?

The answer to the first question is that labor markets are very different from both commodity markets and markets for other productive inputs. Employment involves a continuing personal relationship between an employer and an employee; transactions in most other markets are brief and impersonal. Labor economics also involves the study of a major economic institution—the trade union—which is very different from the firm and whose behavior is not covered by the main body of economic theory.

Industrial relations has as its main focus the relationship between an employer and the workers or their union in a particular establishment or firm; labor economics deals with larger aggregates. Because of its focus on smaller units, industrial relations is an interdisciplinary field that includes inputs from sociology, psychology, law, and personnel management as well as from economics. For much the same reason, industrial relations is largely an applied field. This book does not pretend to cover industrial relations, but it does provide the legal and institutional detail necessary for understanding the economics of industrial relations.

In this volume we present recent data to illustrate how the theory of labor markets applies to contemporary economies. These data are important in their own right. Being familiar with them will enable you to develop a good sense of the way labor economics explains how modern labor markets function. In each chapter we present a number of policy issues—nearly 50 in the entire book—that are designed to illustrate the theoretic-

cal discussions after which they appear. Each policy issue is set apart from the body of the text at the end of a section or subsection, but each should be read along with the preceding discussion. The issues are important because they deal with problems in labor market policy that are continually in the news. Along with each policy issue, which would be an excellent topic for a term paper, we provide references that can be used as background for such papers. Although most of these references are technical, some of them are summaries of the literature that you will find more accessible.

At the end of each chapter are questions and problems. The problems are *not* Mickey Mouse problems; they require thought and an ability to work out applications of the theoretical concepts that have been introduced. The questions are broader and usually require that you integrate several of the major points in the chapter. Answering the questions and problems is a good way to affirm that you understand the material in the chapter.

We assume only that you have had a yearlong course covering the principles of micro- and macroeconomics. Any tools not usually included in principles courses are introduced here; essentially we teach you all the necessary detail about those tools, usually in an introductory section to the point at which they will be applied. Much research in modern labor economics is based on the use of statistical methods to analyze economic data. For students who have not studied these methods, we intersperse only the results of this research throughout the text to illustrate the theory. Those students who have studied statistics and econometric methods would benefit greatly from examining a few of the studies we cite, in order to understand how the knowledge that underlies so much of the discussion in the text is obtained.

Daniel S. Hamermesh  
Albert Rees

---

# Contents

To the Instructor ix

To the Student xi

## **PART ONE / LABOR SUPPLY 1**

### **1. Labor-Force Participation 3**

The Meaning of Labor Supply 3

The Labor Force 4

Using Indifference Maps 5

Labor-Force Participation Decisions 9

Participation Rates—The Effect of Age, Sex, and Race 13

Participation Rates—The Overall Trend and Some International  
Comparisons 26

The Dynamics of Participation 26

The Effect of Changes in Demand 28

Summary 31

Appendix: Combining Income and Leisure 32

Questions and Problems 33

*Policy Issues: Home Sewing, Day Care, and the Costs of Work 17; Cutting Off  
Disability Benefits 24; Unemployment, Patriotism, and the Volunteer Army 31*

### **2. Hours of Work and the Supply of Effort 35**

Variation in Hours of Work 35

The Theory of Choice of Hours of Work 37



Government Programs and the Supply of Hours	44
Nonstandard Work Schedules	51
The Supply of Effort	57
Summary	60
Questions and Problems	61

*Policy Issues: Dunning Delinquent Dads 43; The Reagan Tax Cut, 1981–1984 46; Easing the Earnings Test for Social Security 50; Abolishing Mandatory Overtime 5.*

### **3. The Supply of Skill: Investment in Human Capital 63**

An Overview	63
The Nature of Human Capital	65
Age-Earnings Profiles	66
Skills Acquired at School	68
Skills Acquired on the Job	84
Occupations—Aggregates of Skills	93
Summary	95
Questions and Problems	96

*Policy Issues: Tightening Up on Student Loans 74; How to Value a Life: Part One 78; Raising the Age of Compulsory School Attendance 83; Subsidized On-the-Job Training 88; Advance Notification of Layoffs 92; Occupational Licensing 95*

### **Appendix to Part One: The Supply Curve of Labor—A Synthesis 97**

## **PART TWO / LABOR DEMAND 101**

### **4. The Demand for Labor in Competitive Markets 103**

The Nature and Uses of a Theory of the Demand for Labor	103
The Short-run Demand Schedule	104
The Demand for Labor in the Long Run	112
Do Labor-Demand Schedules Really Slope Down?	119
The Demand for Several Types of Labor	121
The Effects of the Minimum Wage	124
The Demand for Labor in the Economy as a Whole	129
Summary	131
Questions and Problems	132

*Policy Issues: Carter and Bentsen on Wage Subsidies 110; Should Developing Countries Use Western Technology? 116; Have Women Been “Taking Jobs Away” from Youths? 123; Would a Youth Subminimum Wage Displace Adult Workers? 129*

### **5. Labor Demand: Noncompetitive Markets and the Worker-Hours Distinction 135**

Labor Demand in Noncompetitive Product Markets	135
Monopsony in Labor Markets	140
Labor Demand When Productivity Depends on Wages	145
The Nonwage Costs of Labor	148
Summary	158
Questions and Problems	159

*Policy Issues: Deregulation and Employment 138; Monopsony in Professional Sports 143; Making Layoffs More Difficult in Europe 153; Protecting Part-Time Workers 155; Double Time for Overtime 157*

### **PART THREE / LABOR MARKETS 161**

#### **6. Supply and Demand Together: The Search Process 163**

Supply and Demand—A Brief Review 163  
How Supply and Demand Determine Wages and Employment 165  
Search in the Labor Market 172  
Channels of Job Search 183  
Summary 186  
Questions and Problems 187  
*Policy Issues: The Incidence of Payroll Taxes 171; Paying the Unemployed to Take Jobs 176; Improving the Employment Service 186*

#### **7. Migration and Mobility 189**

The Causes of Migration 189  
Effects on the Migrant 197  
Effects on the Labor Market 198  
Voluntary Mobility Within a Labor Market 202  
The Benefits from Voluntary Mobility 207  
Summary 208  
Questions and Problems 208  
*Policy Issues: Federalizing Welfare Programs 196; Simpson-Rodino and Illegal Immigration 201; Job Mobility and Quicker Vesting of Pensions 206*

#### **8. The Structure of Internal and External Labor Markets 209**

Internal Labor Markets and Lifetime Jobs 209  
Job Vacancies 221  
The Structure of Unemployment 223  
Unemployment—Duration versus Incidence 229  
Summary 234  
Questions and Problems 234  
*Policy Issues: Abolishing Mandatory Retirement 213; Increased Experience Rating for Unemployment Insurance Taxes 219; The Black Youth Unemployment Problem 227; Work Sharing and the Incidence of Unemployment 232*

### **PART FOUR / UNIONIZED LABOR MARKETS 237**

#### **9. Unions: Growth and Goals 239**

A Brief Summary of Federal Laws on Collective Bargaining 239  
The Union Status of Jobs 240  
Who Becomes Unionized? 241  
Union Growth 246  
Union Goals 250  
Factors Influencing Wage Policy 261

Summary 264

Questions and Problems 265

*Policy Issues: Right-to-Work Laws 245; Union-Busting, Modern Style 249; Union Goals and Antitrust Policy 255*

#### **10. Union Methods: The Bargaining Process 267**

The Sources of Bargaining Power 267

Theories of Bargaining 268

The Bargaining Process and Outcomes 273

Strike Activity 278

Third-Party Intervention in Negotiations 283

Government as a Source of Union Power 285

Summary 288

Questions and Problems 288

*Policy Issues: Landrum-Griffin and Union Militancy 270; Paying Unemployment Benefits to Strikers 282; Does Final Offer Arbitration Reduce Conflict? 285; Wages Under the Davis-Bacon Act 287*

#### **11. Unions' Effects on Labor Markets 291**

An Overview 291

The Union-Nonunion Wage Differential 291

Variation in Union Wage Effects over Time 299

Wage Gaps—Type of Union, Skill Level, and Market Structure 302

Productivity Gaps—Are Unionized Workers More Productive? 307

Effects on Employment and Turnover 309

Unions and Resource Allocation 311

Summary 313

Questions and Problems 314

*Policy Issues: Do Unions Raise Professors' Wages? 299; Applying Antitrust Laws to Unions 304; Domestic Content Legislation and Auto Workers' Employment 310*

### **PART FIVE / THE STRUCTURE OF PAY 315**

#### **12. Differences in Wages and Employee Benefits 317**

An Overview 317

The Sources of Pay Differentials 318

Risks and Hazards on the Job 323

Locational Amenities 330

Risky Employment and Income 332

Differences by Industry 335

Employee Benefits 339

Summary 345

Questions and Problems 346

*Policy Issues: How to Value a Life: Part Two 327; Better Experience Rating for Workers' Compensation 329; Taxing Employee Benefits 344*

**13. Pay Discrimination 347**

- The Extent of Discrimination 347
- Theories of Discrimination 350
- Discrimination Against Blacks 359
- Discrimination Against Hispanics 365
- Discrimination Against Women 367
- The Role of Fellow Employees, Unions, and Consumers 376
- Summary 377
- Questions and Problems 378

*Policy Issues: Banning Non-Job-Related Tests 358; Competition Among Minorities 366; Equal Pay for Oregon's Professors? 370*

**14. The Distribution of Earnings and Income 381**

- Size and Functional Distributions 381
- The Shape of Size Distributions 382
- Explaining the Size Distribution 387
- Human Capital and the Size Distribution 387
- The Roles of Ability, Responsibility, and Risk 392
- The Functional Distribution in an Industrialized Economy 397
- A Theory of the Functional Distribution 398
- The Effects of Unions, Monopolies, and Discrimination on Income Distributions 401
- Summary 403
- Questions and Problems 404

*Policy Issues: Valuing In-Kind Transfers 386; Head Start and Income Inequality 390*

**PART SIX / LABOR IN THE MACROECONOMY 405****15. The Labor Market Over the Business Cycle 407**

- The Facts of Labor Market Adjustment 408
- Explaining the Facts—Flexible Real Wages 415
- Explaining the Facts—Inflexible Wages 421
- The Transmission of Wage Inflation 426
- Wage and Earnings Differentials over the Cycle 430
- Dealing with Inflation 432
- Summary 437
- Questions and Problems 438

*Policy Issues: Do Emergency Unemployment Benefits Prevent Hardship? 410; Increased Structural-Frictional Unemployment 414; The Share Economy 425; Reducing Wage Pressures Through Retraining 429; Will TIPS Reduce Wage-Price Inflation? 436*

Author Index 440

Subject Index 444

*one*

---

LABOR SUPPLY





# chapter 1

---

## Labor-Force Participation

### THE MEANING OF LABOR SUPPLY

In the writings of the classical economists of the eighteenth and nineteenth centuries, the discussion of labor supply concerned the forces that determine the size of the population of working age and, especially, the effect of changes in real wages on population growth. Not much was said about the amount of work supplied by a population of any given size. There was no reason to consider this—everyone old enough and healthy enough to do any useful work toiled the entire day. More recently, labor economists have reversed this emphasis. We define the *supply of labor* as the amount of effort offered by a population of a given size. We pay only slight attention to changes in the size of the population, leaving the study of population dynamics to *demography*. This separate discipline, which combines economics, sociology, and mathematics, has well-developed methods of its own for studying fertility, mortality, and migration flows that make up changes in population.

The amount of labor supplied by a given population can be divided for convenience into four factors.

1. *Labor-force participation rate*, or the percentage of the population engaged in or seeking gainful employment, has been studied extensively. Today we understand a great deal about why different groups are more or less likely to be working or seeking work and how government programs affect participation. In this chapter we discuss the various factors that determine participation.
2. *Number of hours* people are willing to work per day, per week, or per year while they are in the labor force. This aspect of labor supply is treated in Chapter 2.

3. *Amount of effort* that people put forth per hour or day while they are at work. This is discussed in the last section of Chapter 2.
4. *Level of training and skill* that workers bring to their jobs. This important topic is the subject of Chapter 3.

Although we separate these four components of labor supply, they are not independent of each other. Many of the same forces that affect any one of them affect each of the others. Together these components make up the amount of labor—work effort—that is available for the production of goods and services to be sold in the marketplace.

### THE LABOR FORCE

The *labor force* is the number of people who work for pay or profit or who are unemployed during any part of some short period of time, usually a week. In the United States the labor force is measured every month. During the week following the *reference week*—the week containing the twelfth day of the month—people in 60,000 households in over 700 separate geographic areas are interviewed by an employee of the U.S. Bureau of the Census. The same household is included in the survey for 4 consecutive months, is removed from the survey for 8 months, and then is included again for a final 4 consecutive months. The households are chosen to reflect the principal characteristics of the population as measured in the most recent decennial census. These interviews form the *Current Population Survey*, the basis for the unemployment statistics and other labor-force statistics that are usually announced on the first Friday of the next month.

In the United States as of 1986, the *employed* are defined as those who worked 1 hour or more for wages or salary during the reference week or did 15 hours or more of unpaid work in a family business or farm. Those absent from work because of vacation, illness, bad weather, or strikes and lockouts are also counted as employed but in the separate subcategory “with a job but not at work.” The *unemployed* are those who are on layoff from a job; who have no job but have looked for work during the preceding 4 weeks and were available for work during the reference week; or who are waiting to report to a new job within the next 30 days.

The *labor force* as defined in the United States is now limited to those persons who are 16 years of age and older who are not institutionalized in prisons, mental institutions, and the like. The small amount of labor supplied by those under age 16 is not counted. However, being in school does not preclude someone 16 or over from being counted as in the labor force (as we see later in this chapter). Separate data are kept on the *civilian* and the *total labor forces*; the latter adds resident military personnel to the civilian labor force. The discussion in this book analyzes the behavior of the civilian labor force only.

The questions asked by the interviewer enable government analysts to determine the labor-force status of each civilian age 16 and over who is not in an institution. This is an all-or-nothing matter: For purposes of the survey, a person is either in or out of the labor force; by definition, one cannot be partly in the labor force and partly out. The answers to the questions enable the entire civilian noninstitutionalized population, P, to be divided into employed, E, unemployed, U, and out-of-the-labor force, O:

$$P = E + U + O$$

The labor force,  $L$ , consists of those who are employed or unemployed

$$L = E + U$$

The labor-force participation rate, usually measured as a percentage, is

$$\text{LFPR} = 100 \times \frac{L}{P}$$

The unemployment rate, also measured in percentage form, is:

$$\text{UR} = 100 \times \frac{U}{L}$$

Because the interviewers also record the age, sex, race, ethnicity, and marital status of people in the households, the government publishes information on participation classified by these criteria. Special supplements to the survey each year provide additional information on participation rates classified by workers' education. Information on labor-force participation by detailed location is collected in the decennial Census of Population. Taken together, the data in the Current Population Survey and the Census of Population enable us to calculate labor-force participation rates for a variety of population groups and to examine their determinants.

Labor-force participation rates by age and sex for a recent year are shown in Table 1.1. These rates are based on a civilian noninstitutional population of 181 million people age 16 or over, of whom 86 million were men, 95 million were women. Large variations in rates among the groups are immediately apparent. The participation rate is generally higher for men than for women; but within each sex there is substantial variation by age, and the age patterns for men and women are somewhat different. Participation rates also differ by race. Fewer black men age 20 or over are in the labor force: In 1986 their participation rate was 74.8 percent as compared to 78.5 percent of white men. Among ethnic groups for which data from the Current Population Survey are published, Hispanic adult men were most likely to participate: 84.6 percent were in the civilian labor force in 1986. A somewhat higher percentage of adult black than white women were in the labor force: In 1986, 58.9 percent participated as compared to 54.9

**Table 1.1 CIVILIAN LABOR-FORCE PARTICIPATION RATES BY AGE AND SEX, 1986**

Age	Males	Females
16-19	56.4	53.0
20-24	85.8	72.4
25-34	94.6	71.6
35-44	94.8	73.1
45-54	91.0	65.9
55-64	67.3	42.3
65+	16.0	7.4

Source: *Employment and Earnings*, January 1987, p. 158.