MODERN LABOR ECONOMICS

THEORY AND PUBLIC POLICY

TWELFTH EDITION

RONALD G. **EHRENBERG** | ROBERT S. **SMITH**

Unemployment Rates for the Civilian Labor Force over Age 16, 1947–2012 (data displayed graphically in Figure 2.2 on p. 29)

Year	Rate	Year	Rate
1947	3.9	1981	7.6
1948	3.8	1982	9.7
1949	5.9	1983	9.6
1950	5.3	1984	7.5
1951	3.3	1985	7.2
1952	3.0	1986	7.0
1953	2.9	1987	6.2
1954	5.5	1988	5.5
1955	4.4	1989	5.3
1956	4.1	1990	5.6
1957	4.3	1991	6.8
1958	6.8	1992	7.5
1959	5.5	1993	6.9
1960	5.5	1994†	6.1
1961	6.7	1995†	5.6
1962	5.5	1996†	5.4
1963	5.7	1997†	4.9
1964	5.2	1998†	4.5
1965	4.5	1999†	4.2
1966	3.8	2000†	4.0
1967	3.8	2001†	4.7
1968	3.6	2002†	5.8
1969	3.5	2003†	6.0
1970	4.9	2004†	5.5
1971	5.9	2005†	5.1
1972	5.6	2006†	4.6
1973	4.9	2007	4.6
1974	5.6	2008	5.8
1975	8.5	2009	9.3
1976	7.7	2010	9.6
1977	7.1	2011	8.9
1978	6.1	2012	8.1
1979	5.8		

†In 1994, changes were made in the Current Population Survey, upon which estimates of unemployment are based, that increased the reported unemployment rate by 0.5 percentage points. Increases were especially noticeable among women, teenagers, and the elderly. Definitions did not change, but the new questionnaire apparently led more respondents to report that they were actively engaged in search of a job or were on layoff status. Thus, data for 1994 and beyond are not directly comparable to those for earlier years.

Source: 1947–1966: U.S. Bureau of Labor Statistics, *Employment and Earnings* 13 (January 1967), Table A-1. 1967–2012: U.S. President, *Economic Report of the President* (Washington, D.C.: U.S. Government Printing Office, March 2013), Table B-42.

Employment Distribution by Major Nonfarm Sector, 1954–2013 (data displayed graphically in Figure 2.3 on p. 30)

Year	Goods-Producing Industries* (%)	Nongovernment Services (%)	Government Services (%)
1954	37.7	48.3	14.0
1964	33.8	49.6	16.6
1974	29.8	52.0	18.2
1984	24.9	58.1	17.0
1994	19.9	63.2	16.9
2004	16.6	67.0	16.4
2013	14.0	70.8	15.2

*Manufacturing, construction, and mining

Source: U.S. Department of Labor, Bureau of Labor Statistics, "Employment Situation Summary," Table B-1, at http://www.bls.gov.

Table 2.1

Labor Force Participation Rates by Gender, 1950–2013

Year	Total (%)	Men (%)	Women (%)
1950	59.9	86.8	33.9
1960	60.2	84.0	37.8
1970	61.3	80.6	43.4
1980	64.2	77.9	51.6
1990	66.5	76.4	57.5
2000	67.2	74.7	60.2
2010 (April)	65.2	71.8	59.0
2013 (April)	63.3	69.8	57.2

Sources: 1950–1980: U.S. President, *Employment and Training Report of the President* (Washington, D.C.: U.S. Government Printing Office), transmitted to the Congress 1981, Table A-1.

1990: U.S. Bureau of Labor Statistics, *Employment and Earnings* 45 (February 1998), Tables A-1 and A-2.

2000: U.S. Bureau of Labor Statistics, *Employment Situation* (News Release, October 2001), Table A-1.

2010: U.S. Bureau of Labor Statistics, *Employment Situation* (Economic News Release, May 2010), Table A-1.

2013: U.S. Bureau of Labor Statistics, *Employment Situation* (Economic News Release, May 2013), Table A-1.

Data and news releases are available online at http://www.bls.gov.

Table 2.2

Nominal and Real Hourly Earnings, U.S. Nonsupervisory Workers in the Private Sector, 1980–2012

	1980	1990	2012
Average hourly earnings	$ 6.85	$10.20	$19.77
Consumer Price Index (CPI) using 1982–1984 as a base	82.4	130.7	229.6
Average hourly earnings, 1982–1984 dollars (using CPI)	$ 8.31	$ 7.80	$ 8.61
Average hourly earnings, 2012 dollars (using CPI)	$19.09	$17.92	$19.77
Average hourly earnings, 2012 dollars (using CPI inflation less 1 percent per year)	$13.96	$14.48	$19.77

Source: U.S. President, *Economic Report of the President* (Washington, D.C.: U.S. Government Printing Office, 2013), Tables B-47 and B-60.

Modern Labor Economics

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Modern Labor Economics

Theory and Public Policy

Twelfth Edition

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Brief Contents

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Preface

Modern Labor Economics: Theory and Public Policy has grown out of our experiences over the last four decades in teaching labor market economics and conducting research aimed at influencing public policy. Our text develops the modern theory of labor market behavior, summarizes empirical evidence that supports or contradicts each hypothesis, and illustrates in detail the usefulness of the theory for public policy analysis. We believe that showing students the social implications of concepts enhances the motivation to learn them, and that using the concepts of each chapter in an analytic setting allows students to see the concepts in action. The extensive use of detailed policy applications constitutes a major contribution of this text.

If, as economists believe, passing "the market test" is the ultimate criterion for judging the success of an innovation, launching this twelfth edition of *Modern Labor Economics* is an endeavor that we have approached with both satisfaction and enthusiasm. We believe that economic analysis has become more widely accepted and valued in the area of policy analysis and evaluation, and that labor economics has become an ever-more vibrant and vigorous field within economics. *Modern Labor Economics* was first published about a decade after neoclassical analysis of the labor market replaced institutional treatment as the dominant paradigm, and in the intervening decades, this paradigm has grown increasingly sophisticated in its treatment of labor-market issues and the institutions that affect them. This period has been a very exciting and rewarding time to be a labor economist, and our enthusiasm for bringing this field to the student remains unabated.

New to This Edition

- This twelfth edition of *Modern Labor Economics* has been thoroughly updated to include the latest descriptive data pertaining to the labor market and the latest references to professional literature. Through these updates our goal is to make our textbook a comprehensive reference for critical factual information about the labor market *and* to the professional literature in labor economics.
- We analyze the effects of the Great Recession of 2008 on retirement ages (Chapter 7), on immigration (Chapter 10), on international differences in unemployment (Chapter 14), and on earnings inequality (Chapter 15). We have also added a section (in Chapter 3) analyzing the efficacy of cutting payroll taxes as a means of stimulating employment during a recession.
- In light of the growing debate on unauthorized immigration, we have expanded our treatment of the labor-market effects of immigration (Chapter 10) to

include analyses of the elasticity of the labor demand curve and the economic effects of low-skilled immigration on higher-skilled workers.
- Our discussion of human capital investments in Chapter 9 has been enhanced to include a more detailed analysis of how "behavioral skills," psychic costs of learning, and personal discount rates affect the returns to education.
- Boxed examples, which illustrate the applicability of economic concepts to the understanding of both daily life and historical developments, have been a key characteristic of *Modern Labor Economics* in its previous eleven editions. In this twelfth edition, we have added eight new boxed examples, ranging from the "Big Mac" real-wage index and how housing subsidies affect labor supply, to the effects of linguistics on personal discount rates and the effects of race on called strikes in baseball.

Overview of the Text

Modern Labor Economics is designed for one-semester or one-quarter courses in labor economics at the undergraduate or graduate level for students who may not have extensive backgrounds in economics. Since 1974, we have taught such courses at the School of Industrial and Labor Relations at Cornell University. The undergraduate course requires only principles of economics as a prerequisite, and the graduate course (for students in a professional program akin to an MBA program) has no prerequisites. We have found that it is not necessary to be highly technical in one's presentation in order to convey important concepts and that students with limited backgrounds in economics can comprehend a great deal of material in a single course. However, for students who have had intermediate microeconomics, we have included seven chapter appendixes that discuss more advanced material or develop technical concepts in much greater detail than the text discussion permits.

Labor economics has always been an "applied" branch of study, and a thorough grounding in the field requires at least an acquaintance with basic methodological techniques and problems. The appendix to Chapter 1 presents a brief overview of regression analysis. Then, each succeeding chapter ends with an "empirical study"—relevant to that chapter's content—that introduces students to different *methodological* issues faced by economists doing applied research. It is our hope that this unique feature of the textbook will both enlighten students about, and interest them in, the challenges of empirical research.

After an introduction to basic economic concepts in Chapter 1, Chapter 2 presents a quick overview of demand and supply in labor markets so that students will see from the outset the interrelationship of the major forces at work shaping labor market behavior. This chapter can be skipped or skimmed by students with strong backgrounds in economics or by students in one-quarter courses. Chapters 3–5 are concerned primarily with the demand for labor, while Chapters 6–10 focus on labor supply issues.

Beginning with Chapter 11, the concepts of economics are used to analyze several topics of special interest to students of labor markets. The relationship between

pay and productivity is analyzed in Chapter 11, and the earnings of women and minorities—encompassing issues of discrimination—are the subjects of Chapter 12. Chapter 13 uses economic concepts to analyze collective bargaining in the private and public sectors, and Chapter 14 discusses the issue of unemployment.

Chapters 15 and 16 offer analyses of two issues of major policy importance in the last two or three decades: the growth in earnings inequality (Chapter 15) and the effects of greater international trade and production sharing (Chapter 16). Both chapters serve a dual role: analyzing important policy issues while *reviewing and utilizing key concepts presented in earlier chapters*.

In addition to the use of public policy examples, the inclusion of technical appendixes, and our end-of-chapter discussions of methodological issues, the text has a number of other important pedagogical features. First, each chapter contains boxed examples that illustrate an application of that chapter's theory in a nontraditional, historical, business, or cross-cultural setting. Second, each chapter contains a number of discussion or review questions that allow students to apply what they have learned to specific policy issues. To enhance student mastery, we provide answers to the odd-numbered questions at the back of the book. Third, lists of selected readings at the ends of chapters refer students to more advanced sources of study. Fourth, the footnotes in the text have been updated to cite the most recent literature on each given topic; they are intended as a reference for students and professors alike who may want to delve more deeply into a given topic.

Accompanying Supplements

Supplements enrich the twelfth edition of *Modern Labor Economics* for both students and instructors.

Students receive a cohesive set of online study tools that are available on the **Companion Web site**, www.pearsonhighered.com/ehrenberg/. For each chapter, students will find a chapter summary, review questions, problems, and applications written by Léonie Stone at the State University of New York at Geneseo, a multiple-choice quiz revised by Kevin J. Murphy of Oakland University, econometric and quantitative problems revised by Elizabeth Wheaton of Southern Methodist University, case studies compiled by Lawrence Wohl of Gustavus Adolphus College that illustrate concepts central to the chapters, Web links to labor data sources, and PowerPoint presentations containing all numbered figures and tables from the text. In addition, students can also access Web Appendix 9B: A Hedonic Model of Earnings and Educational Level.

For instructors, an extensive set of online course materials is available for download at the Instructor Resource Center (www.pearsonhighered.com) on the catalog page for *Modern Labor Economics*. All resources are password-protected for instructor use only. An **Online Test Bank** consists of approximately 600 multiple-choice and short-answer questions that can be downloaded and edited for use in problem sets and exams. The Test Bank has been thoroughly revised and updated by Kevin J. Murphy and is also available as an **Online Computerized Test Bank** in TestGen format.

Also available is the **Online Instructor's Manual**, written by co-author Robert Smith. The Online Instructor's Manual presents answers to the even-numbered review questions and problems in the text, outlines the major concepts in each chapter, and contains two suggested essay questions per chapter (with answers).

Finally, an **Online PowerPoint presentation** is available for each chapter. The slides consist of all numbered figures and tables from the text. New to the twelfth edition are accompanying lecture notes, written by Oluwole Owoye of Western Connecticut State University.

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Third, several colleagues have contributed, both formally and informally, to this twelfth edition. We appreciate the suggestions of the following people:

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CHAPTER 1

Introduction

Economic theory provides powerful, and surprising, insights into individual and social behavior. These insights are interesting because they help us understand important aspects of our lives. Beyond this, however, government, industry, labor, and other groups have increasingly come to understand the usefulness of the concepts and thought processes of economists in formulating social policy.

This book presents an application of economic analysis to the behavior of, and relationship between, employers and employees. The aggregate compensation received by U.S. employees from their employers was $8.6 trillion in the year 2012, while all *other* forms of personal income for that year—from investments, self-employment, pensions, and various government welfare programs—amounted to $5.3 trillion. The *employment* relationship, then, is one of the most fundamental relationships in our lives, and as such, it attracts a good deal of legislative attention. Knowing the fundamentals of labor economics is thus essential to an understanding of a huge array of social problems and programs, both in the United States and elsewhere.

As economists who have been actively involved in the analysis and evaluation of public policies, we obviously believe labor economics is useful in understanding the effects of these programs. Perhaps more importantly, we also believe policy analysis can be useful in teaching the fundamentals of labor economics. We have therefore incorporated such analyses into each

chapter, with two purposes in mind. First, we believe that seeing the relevance and social implications of concepts studied enhances the student's motivation to learn. Second, using the concepts of each chapter in an analytical setting serves to reinforce understanding by helping the student to see them "in action."

The Labor Market

There is a rumor that a former U.S. Secretary of Labor attempted to abolish the term *labor market* from departmental publications. He believed that it demeaned workers to regard labor as being bought and sold like so much grain, oil, or steel. True, labor is unique in several ways. Labor services can only be rented; workers themselves cannot be bought and sold. Further, because labor services cannot be separated from workers, the conditions under which such services are rented are often as important as the price. Indeed, *nonpecuniary factors*—such as work environment, risk of injury, personalities of managers, perceptions of fair treatment, and flexibility of work hours—loom larger in employment transactions than they do in markets for commodities. Finally, a host of institutions and pieces of legislation that influence the employment relationship do not exist in other markets.

Nevertheless, the circumstances under which employers and employees rent labor services clearly constitute a market, for several reasons. First, institutions such as want ads and employment agencies have been developed to facilitate contact between buyers and sellers of labor services. Second, once contact is arranged, information about price and quality is exchanged in employment applications and interviews. Third, when agreement is reached, some kind of *contract*, whether formal or informal, is executed, covering compensation, conditions of work, job security, and even the duration of the job. These contracts typically call for employers to compensate employees for their *time* and not for what they produce. This form of compensation requires that employers give careful attention to worker motivation and dependability in the selection and employment process.

The end result of employer–employee transactions in the labor market is, of course, the placement of people in jobs at certain rates of pay. This allocation of labor serves not only the personal needs of individuals but the needs of the larger society as well. Through the labor market, our most important national resource—labor—is allocated to firms, industries, occupations, and regions.[1]

Labor Economics: Some Basic Concepts

Labor economics is the study of the workings and outcomes of the market for labor. More specifically, labor economics is primarily concerned with the behavior of employers and employees in response to the general incentives of wages,

[1]For an article that examines work from a philosophical perspective, see Yoram Weiss, "Work and Leisure: A History of Ideas," *Journal of Labor Economics* 27 (January 2009): 1–20.

prices, profits, and nonpecuniary aspects of the employment relationship, such as working conditions. These incentives serve both to motivate and to limit individual choice. The focus in economics is on inducements for behavior that are impersonal and apply to a wide range of people.

In this book, we shall examine, for example, the relationship between wages and employment opportunities; the interaction among wages, income, and the decision to work; the way general market incentives affect occupational choice; the relationship between wages and undesirable job characteristics; the incentives for and effects of educational and training investments; and the effects of unions on wages, productivity, and turnover. In the process, we shall analyze the employment and wage effects of such social policies as the minimum wage, overtime legislation, safety and health regulations, welfare reform, payroll taxes, unemployment insurance, immigration policies, and antidiscrimination laws.

Our study of labor economics will be conducted on two levels. Most of the time, we shall use economic theory to analyze "what is"; that is, we shall explain people's behavior using a mode of analysis called *positive economics*. Less commonly, we shall use *normative* economic analysis to judge "what should be."

Positive Economics

Positive economics is a theory of behavior in which people are typically assumed to respond favorably to benefits and negatively to costs. In this regard, positive economics closely resembles Skinnerian psychology, which views behavior as shaped by rewards and punishments. The rewards in economic theory are pecuniary and nonpecuniary gains (benefits), while the punishments are forgone opportunities (costs). For example, a person motivated to become a surgeon because of the earnings and status surgeons command must give up the opportunity to become a lawyer and must be available for emergency work around the clock. Both the benefits and the costs must be considered in making this career choice.

Scarcity The pervasive assumption underlying economic theory is that of resource *scarcity*. According to this assumption, individuals and society alike do not have the resources to meet all of their wants. Thus, any resource devoted to satisfying one set of desires could have been used to satisfy another set, which means that there is a cost to any decision or action. The real cost of using labor hired by a government contractor to build a road, for example, is the production lost by not devoting this labor to the production of some other good or service. Thus, in popular terms, "There is no such thing as a free lunch," and we must always make choices and live with the rewards and costs these choices bring us. Moreover, we are always constrained in our choices by the resources available to us.

Rationality A second basic assumption of positive economics is that people are *rational*—they have an objective and pursue it in a reasonably consistent fashion. When considering *persons*, economists assume that the objective being

pursued is *utility maximization;* that is, people are assumed to strive toward the goal of making themselves as happy as they can (given their limited resources). Utility, of course, is generated by both pecuniary and nonpecuniary dimensions of employment.

When considering the behavior of *firms*, which are inherently nonpersonal entities, economists assume that the goal of behavior is *profit maximization*. Profit maximization is really just a special case of utility maximization in which pecuniary gain is emphasized and nonpecuniary factors are ignored.

The assumption of rationality implies a *consistency* of response to general economic incentives and an *adaptability* of behavior when those incentives change. These two characteristics of behavior underlie predictions about how workers and firms will respond to various incentives.[2]

The Models and Predictions of Positive Economics

Behavioral predictions in economics flow more or less directly from the two fundamental assumptions of scarcity and rationality. Workers must continually make choices, such as whether to look for other jobs, accept overtime, move to another area, or acquire more education. Employers must also make choices concerning, for example, the level of output and the mix of machines and labor to use in production. Economists usually assume that when making these choices, employees and employers are guided by their desires to maximize utility or profit, respectively. However, what is more important to the economic theory of behavior is not the *particular* goal of either employees or employers; rather, it is that economic actors weigh the costs and benefits of various alternative transactions in the context of achieving *some* goal or other.

One may object that these assumptions are unrealistic and that people are not nearly as calculating, as well informed about alternatives, or as amply endowed with choices as economists assume. Economists are likely to reply that if people are not calculating, are totally uninformed, or do not have any choices, then most predictions suggested by economic theory will not be supported by real-world evidence. They thus argue that the theory underlying positive economics should be judged on the basis of its *predictions*, not its assumptions.

The reason we need to make assumptions and create a relatively simple theory of behavior is that the actual workings of the labor market are almost inconceivably complex. Millions of workers and employers interact daily, all with their own sets of motivations, preferences, information, and perceptions of self-interest. What we need to discover are general principles that provide useful

[2]For articles on rationality and the related issue of preferences, see Gary Becker, "Irrational Behavior and Economic Theory," *Journal of Political Economy* 70 (February 1962): 1–13; Richard H. Thaler, "From Homo Economicus to Homo Sapiens," *Journal of Economic Perspectives* 14 (Winter 2000): 133–141; Stefano DellaVigna, "Psychology and Economics: Evidence from the Field," *Journal of Economic Literature* 47 (June 2009): 315–372; and Andrei Schleifer, "Psychologists at the Gate: A Review of Daniel Kahneman's *Thinking Fast and Slow*," *Journal of Economic Literature* 50 (December 2012): 1080–1091.

EXAMPLE 1.1

Positive Economics: What Does It Mean to "Understand" Behavior?

The purpose of positive economic analysis is to analyze, or understand, the behavior of people as they respond to market incentives. But in a world that is extremely complex, just what does it mean to "understand" behavior? One theoretical physicist put it this way:

> We can imagine that this complicated array of moving things which constitutes "the world" is something like a great chess game being played by the gods, and we are observers of the game. We do not know what the rules of the game are; all we are allowed to do is to watch the playing. Of course, if we watch long enough, we may eventually catch on to a few of the rules. The rules of the game are what we mean by fundamental physics. Even if we know every rule, however . . . what we really can explain in terms of those rules is very limited, because almost all situations are so enormously complicated that we cannot follow the plays of the game using the rules, much less tell what is going to happen next. We must, therefore, limit ourselves to the more basic question of the rules of the game. If we know the rules, we consider that we "understand" the world.[a]

If the behavior of nature, which does not have a will, is so difficult to analyze, understanding the behavior of people is even more of a challenge. Since people's behavior does not mechanistically follow a set of rules, the goal of positive economics is most realistically stated as trying to discover their behavioral tendencies.

[a]Richard T. Feynman, The Feynman Lectures on Physics, vol. 1, 1963, by Addison-Wesley.

insights into the labor market. We hope to show in this text that a few forces are so basic to labor market behavior that they alone can predict or explain many of the outcomes and behaviors observed in the labor market.

Anytime we attempt to explain a complex set of behaviors and outcomes using a few fundamental influences, we have created a *model*. Models are not intended to capture every complexity of behavior; instead, they are created to strip away random and idiosyncratic factors so that the focus is on general principles. An analogy from the physical sciences may make the nature of models and their relationship to actual behavior clearer.

A Physical Model Using simple calculations of velocity and gravitational pull, physicists can predict where a ball will land if it is kicked with a certain force at a given angle to the ground. The actual point of landing may vary from the predicted point because of wind currents and any spin the ball might have—factors ignored in the calculations. If 100 balls are kicked, none may ever land exactly on the predicted spot, although they will tend to cluster around it. The accuracy of the model, while not perfect, may be good enough to enable a football coach to decide whether to attempt a field goal. The point is that we usually just need to know the *average tendencies* of outcomes for policy purposes. To estimate these tendencies, we need to know the important forces at work, but we must confine ourselves to few enough influences so that calculating estimates remains feasible. (A further comparison of physics and positive economics is in Example 1.1.)

An Economic Model To really grasp the assumptions and predictions of economic models, we consider a concrete example. Suppose we begin by asserting that being subject to resource scarcity, workers will prefer high-paying jobs to low-paying ones *if* all other job characteristics are the same in each job. Thus, they will quit low-paying jobs to take better-paying ones if they believe sufficient improvement is likely. This principle does not imply that workers care only about wages or that all are equally likely to quit. Workers obviously care about a number of employment characteristics, and improvement in any of these on their current job makes turnover less likely. Likewise, some workers are more receptive to change than others. Nevertheless, if we hold other factors constant and increase only wages, we should clearly observe that the probability of quitting will fall.

On the employer side of the market, we can consider a similar prediction. Firms need to make a profit to survive. If they have high turnover, their costs will be higher than otherwise because of the need to hire and train replacements. With high turnover, they could not, therefore, afford to pay high wages. However, if they could reduce turnover enough by paying higher wages, it might well be worth incurring the added wage costs. Thus, both the utility-maximizing behavior of employees and the profit-maximizing behavior of firms lead us to expect low turnover to be associated with high wages and high turnover with low wages, other things equal.

We note several important things about the above predictions:

1. The predictions emerge directly from the twin assumptions of scarcity and rationality. Employees and employers, both mindful of their scarce resources, are assumed to be on the lookout for chances to improve their well-being. The predictions are also based on the assumptions that employees are aware of, or can learn about, alternative jobs and that these alternatives are open to them.
2. We made the prediction of a negative relationship between wages and voluntary turnover by holding other things equal. The theory does not deny that job characteristics other than wages matter to employees or that employers can lower turnover by varying policies other than the wage rate. However, keeping these other factors constant, our model predicts a negative relationship if the basic assumptions are valid.
3. The *assumptions* of the theory concern individual behavior of employers and employees, but the *predictions* are about an aggregate relationship between wages and turnover. The prediction is *not* that all employees will remain in their jobs if their wages are increased but that *enough* will remain for turnover to be cut by raising wages. The test of the prediction thus lies in finding out if the predicted relationship between wages and turnover exists using aggregate data from firms or industries.

Careful statistical studies suggest support for the hypothesis that higher pay reduces voluntary turnover. One study, for example, estimated that a 10 percent increase in wages, holding worker characteristics constant, reduced the quit rate by one percentage point.[3] (The statistical technique commonly used by economists to test hypotheses is introduced in Appendix 1A.)

Normative Economics

Understanding normative economics begins with the realization that there are two kinds of economic transactions. One kind is entered into voluntarily because all parties to the transaction gain. If Sally is willing to create blueprints for $20 per hour, for example, and Ace Engineering Services is willing to pay someone up to $22 per hour to do the job, both gain by agreeing to Sally's appointment at an hourly wage between $20 and $22; such a transaction is mutually beneficial. The role of the labor market is to facilitate these voluntary, mutually advantageous transactions. If the market is successful in facilitating *all* possible mutually beneficial transactions, it can be said to have produced a condition economists call *Pareto* (or "economic") *efficiency*.[4] (The word *efficiency* is used by economists in a very specialized sense to denote a condition in which all mutually beneficial transactions have been concluded. This definition of the word is more comprehensive than its normal connotation of cost minimization.) If Pareto efficiency were actually attained, no more transactions would be undertaken voluntarily because they would not be *mutually* advantageous.

The second kind of transaction is one in which one or more parties *lose*. These transactions often involve the redistribution of income, from which some gain at the expense of others. Transactions that are explicitly redistributional, for example, are not entered into voluntarily unless motivated by charity (in which case the donors gain nonpecuniary satisfaction); otherwise, redistributional transactions are mandated by government through tax and expenditure policies. Thus, while markets facilitate *voluntary* transactions, the government's job is often to make certain transactions *mandatory*.

Any normative statement—a statement about what *ought* to exist—is based on some underlying value. Government policies affecting the labor market are often based on the widely shared, but not universally agreed upon, value that society should try to make the distribution of income more equal. Welfare

[3]V. Bhaskar, Alan Manning, and Ted To, "Oligopsony and Monopsonistic Competition in Labor Markets," *Journal of Economic Perspectives* 16 (Spring 2002): 158.

[4]Pareto efficiency gets its name from the Italian economist Vilfredo Pareto, who, around 1900, insisted that economic science should make normative pronouncements only about unambiguous changes in social welfare. Rejecting the notion that utility can be measured (and, therefore, compared across individuals), Pareto argued that we can only know whether a transaction improves social welfare from the testimony or behavior of the affected parties themselves. If they as individuals regard themselves as better off, then the transaction is unambiguously good—even though we are unable to measure how much better off they feel.

programs, minimum wage laws, and restrictions on immigration are examples of policies based on *distributional* considerations. Other labor market policies are intended either to change or to overrule the choices workers make in maximizing their utility. The underlying value in these cases is frequently that workers should not be allowed to place themselves or their families at risk of physical or financial harm. The wearing of such personal protective devices as hard hats and earplugs, for example, is seen as so *meritorious* in certain settings that it is required of workers even if they would choose otherwise.

Policies seeking to redistribute income or force the consumption of meritorious goods are often controversial because some workers will feel worse off when the policies are adopted. These transactions must be governmentally mandated because they will not be entered into voluntarily.

Markets and Values Economic theory, however, reminds us that there is a class of transactions wherein there are no losers. Policies or transactions from which all affected parties gain can be said to be *Pareto-improving* because they promote Pareto efficiency. These policies or transactions can be justified on the grounds that they unambiguously enhance social welfare; therefore, they can be unanimously supported. Policies with this justification are of special interest to economists because economics is largely the study of market behavior—voluntary transactions in the pursuit of self-interest.

A transaction can be unanimously supported when one of the following occurs:

a. All parties who are affected by the transaction gain.
b. Some parties gain and no one else loses.
c. Some parties gain and some lose from the transaction, but the gainers fully compensate the losers.

When the compensation in *c* takes place, case *c* is converted to case *b*. In practice, economists often judge a transaction by whether the gains of the beneficiaries exceed the costs borne by the losers, thus making it *possible* that there would be no losers. However, when the compensation of losers is *possible* but does *not* take place, there are, in fact, losers! Many economists, therefore, argue that compensation *must* take place for a government policy to be justified on the grounds that it promotes Pareto efficiency.

As noted above, the role of the labor market is to facilitate voluntary, mutually advantageous transactions. Hardly anyone would argue against at least some kind of government intervention in the labor market if the market is failing to promote such transactions. Why do markets fail?

Market Failure: Ignorance First, people may be ignorant of some important facts, thus led to make decisions that are not in their self-interest. For example, a worker who smokes may take a job in an asbestos-processing plant not knowing that the combination of smoking and inhaling asbestos dust substantially increases the risk of disease. Had the worker known this, he or she would probably have stopped smoking or changed jobs, but both transactions were blocked by ignorance.

Market Failure: Transaction Barriers Second, there may be some barrier to the completion of a transaction that could be mutually beneficial. Often, such a barrier is created by laws that prohibit certain transactions. For example, as recently as three or four decades ago, many states prohibited employers from hiring women to work more than 40 hours-a-week. As a consequence, firms that wanted to hire workers for more than 40 hours-a-week could not transact with those women who wanted to work overtime—to the detriment of both parties. Society as a whole thus suffers losses when transactions that are mutually beneficial are prohibited by government.

Another barrier to mutually beneficial transactions may be the expense of completing the transactions. Unskilled workers facing very limited opportunities in one region might desire to move to take better jobs. Alternatively, they might want to enter job-training programs. In either case, they might lack the funds to finance the desired transactions.

Market Failure: Externalities Market failure can also arise when a buyer and a seller agree to a transaction that imposes costs or benefits on people who were *not party to their decision*; in other words, some decisions have costs or benefits that are "external" to the decision makers. Why do these externalities cause market failure?

When buyers and sellers make their decisions, they generally weigh the costs and benefits only to themselves—and, of course, decide to complete a transaction when the benefits outweigh the costs. If *all* transaction costs and benefits fall to the decision makers, then society can be assured that the transaction represents a step toward Pareto efficiency. However, if there are costs or benefits to people who were *not* able to influence the decision, then the transaction may not have positive net benefits to society.

For us to have confidence that a particular transaction is a step toward Pareto efficiency, the decision must be *voluntarily* accepted by all who are affected by it. If there are externalities to a transaction, people who are affected by it—but cannot influence the ultimate decision—are being *forced* into a transaction that they may not have been willing to make. If so, it may well be that the costs of the transaction are greater than the benefits, once *all* the costs and benefits (and not just those of the decision makers) are counted.

Child labor offers a stark example of externalities, because children do not have the competence or the power to make many important decisions affecting their lives. If parents are selfish and ignore the interests of their children in making decisions about sending them to work or to school, then society cannot trust their decisions as advancing economic efficiency (because the costs and benefits to the children have been ignored in making work–school decisions).

Externalities would also exist if, say, workers have no mechanism to transfer *their* costs of being injured at work to their *employers*, who are the ones making the decisions about how much to spend to reduce workplace risk. If such a mechanism does not exist (a question we will explore in chapter 8), then our workplaces will be less safe than they should be, because employers are ignoring at least some costs (the ones borne by workers) in making their decisions about risk reduction.