INSTRUCTOR'S MANUAL

to accompany

Ehrenberg and Smith

Modern Labor Economics:
Theory and Public Policy

Thirteenth Edition

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A NOTE TO THE INSTRUCTOR

This Instructor's Manual is intended to summarize the content of the thirteenth edition of *Modern Labor Economics: Theory and Public Policy* in a way that explains our pedagogical strategy. Summarized briefly, we believe that labor economics can be best learned if students are (1) able to see the "big picture" early on, so that new concepts can be placed in perspective; (2) moved carefully from concepts they already know to new ones; (3) motivated by seeing the policy implications or inherently interesting insights generated by the concepts being taught. To this last end, we discuss policy issues in every chapter and, in addition, employ boxed examples to demonstrate in historical, cross-cultural, or applied managerial settings the power of the concepts introduced.

The text is designed to be accessible to students with limited backgrounds in economics. We do employ graphic analyses and equations as learning aids in various chapters; however, we are careful to precede their use with verbal explanations of the analyses and to introduce these aids in a step-by-step fashion. To help students in the application of concepts to various issues, we have printed answers to the odd-numbered review questions for each chapter at the back of the book.

We have also endeavored to put together a text that, while accessible to all, is a comprehensive and up-to-date survey of modern labor economics. There are chapter appendices designed to be used with more advanced students in generating additional insights.

In the first part of this Instructor's Manual, we present a brief overview and the general plan of *Modern Labor Economics.* We then present a chapter-by-chapter review of the concepts presented in the text. In the discussion of each chapter we list the major concepts or understandings covered, and in some cases suggest topics or sections that could be eliminated if time must be conserved. We also present our answers to the even-numbered review questions at the end of each chapter.

An important part of this Instructor's Manual are the suggested essay questions related to each chapter. We present two suggested essay questions for each chapter.

This Instructor's Manual is a compilation of the work of three previous authors, Robert S. Smith (Cornell University), Robert M. Whaples (Wake Forest University), and Lawrence Wohl (Gustavus Adolphus University), and the current author, Leonie Stone.

CONTENTS

OVERVIEW OF THE TEXT

INTRODUCTION/REVIEW: Chapters 1 and 2

Chapter 1: Introduction
Appendix 1A: Statistical Testing of Labor Market Hypotheses
Chapter 2: Overview of the Labor Market

Chapters 1 and 2 introduce basic concepts of labor economics. They are written to be accessible to students without backgrounds in intermediate theory, and can, therefore, be used as building blocks when a professor must "begin at the beginning." If the course is being taught to economics majors with intermediate microeconomics as a prerequisite, these chapters may be skipped or skimmed quickly as a review.

An appendix to Chapter 1 introduces the student to econometrics. The purpose of this appendix is to present enough of the basic econometric concepts and issues to permit students to read papers employing ordinary least squares regression techniques. We strongly recommend assigning Appendix 1A in courses requiring students to read empirical papers in the field. We also recommend (in footnote 3 of the appendix) an introductory econometrics text that could be assigned by instructors who wish to go beyond our introductory treatment.

THE DEMAND FOR LABOR: Chapters 3–5

Chapter 3: The Demand for Labor
Appendix 3A: Graphical Derivation of a Firm's Labor Demand Curve
Chapter 4: Labor Demand Elasticities
Chapter 5: Frictions in the Labor Market

The demand for labor is discussed first primarily because we believe that the supply of labor is a more complex topic in many ways. Before analyzing the labor/leisure choice and household production, we first introduce students to the employer side of the market. For instructors who desire to cover topics concerned with the decision to work first, however, we note that Chapters 6 and 7, which deals with that decision, are self-contained. Therefore, nothing would be lost if Chapters 6 and 7 were taught ahead of Chapters 3, 4, and 5.

In Chapter 3 the principal question analyzed is why demand curves slope downward. In Chapter 4 we move to a discussion of the elasticity of demand, and analyze the determinants of the precise relationship between wages and employment. The concepts are used to analyze how technological change and foreign trade affect labor demand. Finally, Chapter 5 discusses frictions in the labor market, both from the employee side of the market (monopsony) and from the employer side (quasi-fixed costs, training investments, hiring investments).

SUPPLY OF LABOR TO THE ECONOMY: Chapters 6 and 7

Chapters 6 and 7 analyze the decision of an individual to work for pay. The traditional analysis of the labor/leisure choice is given in Chapter 6, while in Chapter 7 the decision to work for pay is placed in the context of household production. The essential features of the decision to work for pay are included in Chapter 6. In one-quarter courses or courses in which time is scarce, Chapter 7 could be skipped; however, doing so would eliminate analyses of family labor supply decisions as well as labor supply decisions in the context of the life cycle.

FACTORS AFFECTING THE CHOICE OF EMPLOYMENT: Chapters 8–10

Once they have decided to seek employment, prospective workers encounter important choices concerning their occupation and industry, as well as the general location of their employment. Chapters 8 through 10 analyze these choices, with Chapters 8 and 9 focusing on industry/occupational choice and Chapter 10 on the choice of a specific employer and the location of employment. More particularly, Chapter 8 presents an analysis of job choice within the context of jobs that differ along nonpecuniary dimensions. Chapters 9 and 10 analyze issues affecting worker investments in skill acquisition (Chapter 9) and job change (Chapter 10), and both employ the concepts of *human capital* theory. Chapters 8 and 9 contain appendices of interest to instructors who wish to teach more advanced material.

ANALYSES OF SPECIAL TOPICS IN LABOR ECONOMICS: Chapters 11–16

Having presented basic concepts and analytical tools necessary to understand the demand and supply sides of the labor market, we now move to analyses of special topics: compensation, discrimination, unions, unemployment, inequality, and international issues. A complete analysis of all these topics requires an understanding of behavior on both the demand and supply sides of the market, and these chapters are built upon the preceding ten. No new analytical tools are introduced in these chapters.

CHAPTER 1: INTRODUCTION

Because the textbook stresses economic analysis as it applies to the labor market, students must understand the ways economic analyses are used. The basic purpose of Chapter 1 is to introduce students to the two major modes of economic analysis: positive and normative.
Because both modes of analysis rest on some very fundamental assumptions, Chapter 1 discusses the bases of each mode in some detail.

In our treatment of positive economics, the concept of rationality is defined and discussed, as is the underlying concept of scarcity. There is, in addition, a lengthy discussion of what an economic model is, and an example of the behavioral predictions flowing from such a model is presented. The discussion of normative economics emphasizes its philosophical underpinnings and includes a discussion of the conditions under which a market would fail to produce results consistent with the normative criteria. Labor market examples of governmental remedies are provided.

The appendix to Chapter 1 introduces the student to ordinary least squares regression analysis. It begins with univariate analysis, introduced in a graphical context, explaining the concepts of dependent and independent variables, the "intercept" and "slope" parameters, the "error term," and the *t* statistic. The analysis then moves to multivariate analysis and the problem of omitted variables.

List of Major Concepts

1. The essential features of a market include the facilitation of contact between buyers and sellers, the exchange of information, and the execution of contracts.

2. The uniqueness of labor services affects the characteristics of the labor market.

3. Positive economics is the study of economic behavior, and underlying this theory of behavior are the basic assumptions of scarcity and rationality.

4. Normative economics is the study of what "should be," and theories of social optimality are based in part on the underlying philosophical principle of "mutual benefit."

5. A market "fails" when it does not permit all mutually beneficial trades to take place, and there are three common reasons for such failure.

6. A governmental policy is "Pareto-improving" if it encourages additional mutually beneficial transactions. At times, though, the goal of improving Pareto efficiency conflicts with one of generating more equity.

7. The concept that governmental intervention in a market may be justified on grounds other than the principle of mutual benefit is discussed (for example, government intervention may be justified on the grounds that income redistribution is a desirable social objective).

8. (Appendix) The relationship between two economic variables (e.g., wages and quit rates) can be plotted graphically; this visual relationship can also be summarized algebraically.

9. (Appendix) A way to summarize a linear relationship between two variables is through ordinary least squares regression analysis—a procedure that plots the "best" line (the one that minimizes the sum of squared deviations) through the various data points. The parameters describing this line are *estimated*, and the uncertainty surrounding these estimates are summarized by the *standard error* of the estimate.

10. (Appendix) Multivariate procedures for summarizing the relationship between a dependent and two or more independent variables is a generalization of the univariate procedure, and each coefficient can be interpreted as the effect on the dependent variable of a one-unit change in the relevant independent variable, *holding the other variables constant.*

11. (Appendix) If an independent variable that should be in an estimating equation is left out, estimates of the other coefficients may be biased away from their true values.

Answers to Even-Numbered Review Questions

2. Are the following statements "positive" or "normative"? Why?
   a. Employers should not be required to offer pensions to their employees.
   b. Employers offering pension benefits will pay lower wages than they would if they did not offer a pension program.
   c. If further immigration of unskilled foreigners is prevented, the wages of unskilled immigrants already here will rise.
   d. The military draft compels people to engage in a transaction they would not voluntarily enter into; it should therefore be avoided as a way of recruiting military personnel.
   e. If the military draft were reinstituted, military salaries would probably fall.

Answer: (a) normative (b) positive (c) positive (d) normative (e) positive

4. What are the functions and limitations of an economic model?

Answer: The major function of an economic model is to strip away real-world complexities and focus on a particular cause/effect relationship. In this sense an economic model is analogous to an architect's model of a building. An architect may be interested in designing a building that fits in harmoniously with its surroundings and, in designing such a building, the architect may employ a model that captures the essentials of his or her concerns (namely, appearance) without getting into the complexities of plumbing, electrical circuits, and the design of interior office space. Similarly, an economic model will often focus on a particular kind of behavior and ignore complexities that are either not germane to that behavior or only of indirect importance.

Models used to generate insights about responses to a given economic stimulus are often not intended to forecast actual outcomes. For example, if we are interested in how behavior is affected by stimulus B, with factors C, D, and E held constant, our model may not correctly forecast the observed behavior if stimuli C through E also change.

6. A law in one town of a Canadian province limits large supermarkets to just four employees on Sundays. Analyze this law using the concepts of normative economics.

Answer: Laws restricting employment essentially block mutually beneficial transactions. There are employees who want to work on Sundays, and there were employers who wanted to employ them on Sundays. The restrictions upon their employment prevented these transactions from occurring and therefore made both workers and their potential employers worse off. Thus from a positive point of view, this is not optimal. However, some may feel that fewer people should work on Sunday, and thus, from a normative point of view, some may find it acceptable.

8. In discussing ways to reduce lung diseases caused by workplace hazards, one commentator said:

> Gas masks are very uncomfortable to wear, but economists would argue that they are the socially preferred method for reducing the inhalation of toxic substances whenever they can be produced for less than it takes to alter a ventilation system.

Comment on this quotation from the perspective of normative economics.

Answer: This commentator considers only the costs of production, and not any additional benefits from the ease of working without gas masks, so in fact it may be that this is not optimal from either a positive or normative view. From a normative point of view, some may feel that workers should not be compelled to wear uncomfortable gas masks, and thus it may be desirable to require ventilation systems rather than allowing the option of masks.

Answers to Even-Numbered Problems

2. (Appendix) Suppose that a least squares regression yields the following estimate: $W_i = -1 + 0.3A_i$, where W is the hourly wage rate (in dollars) and A is the age in years. A second regression from another group of workers yields this estimate: $W_i = 3 + 0.3A_i - 0.01(A_i)^2$.
   a. How much is a 20-year-old predicted to earn based on the first estimate?
   b. How much is a 20-year-old predicted to earn based on the second estimate?

Answer: a. $W = -1 + 0.3 \times 20 = 5$ dollars per hour.
b. $W = 3 + 0.3 \times 20 - 0.01 \times 20 \times 20 = 3 + 6 - 4 = 5$ dollars per hour.

4. (Appendix) Suppose you have information on which of the 13 randomly selected teenage workers in the fast-food industry worked part-time and which worked full-time. Variable F_i is equal to 1 if the worker is employed full-time, and it is equal to zero otherwise. With this information, you estimate the following relationship between wages, age, and full-time employment:

$$W_i = -0.5 + \underset{(.10)}{0.25}A_i + \underset{(.20)}{0.75}F_i$$

(the standard errors are in parentheses).

a. How much is a 20-year-old who works full-time predicted to earn based on this estimate?
b. How much is a 20-year-old who works part-time predicted to earn based on this estimate?

Answer: a. $W = -0.5 + 0.25(20) + 0.75(1) = \$5.25$
b. $W = -0.5 + 0.25(20) + 0.75(0) = \$4.50$

6. (Appendix) Compare the first regression estimate in Problem 2 with the regression estimate in Problem 4.

a. Is there an omitted variable bias when the full-time variable is not included? Explain.
b. What can be said about the correlation between age and full-time employment? Explain.

Answer: a. Omitting the full-time/part-time dummy variable creates omitted variable bias. The estimate for the full-time worker is too low, and the estimate for the part-time worker is too high.
b. The assumption of the regression model is that the independent variables are uncorrelated. However, it is possible that older workers are more likely to work full-time, which would create a multicollinearity problem.

Suggested Essay Questions

1. Child labor is an issue that has been discussed a lot recently. From the perspective of normative economics, explain the problem with child labor.

Answer: Pareto efficiency requires that transactions have mutual benefits, and this can be assured only if the transactions are voluntary and take place with complete information. Children may be compelled by their parents to work, and they have limited capacities to make informed decisions even in the absence of compulsion.

2. Recent television news shows have equated low wages and poor working conditions of many immigrant workers in the United States with "slave labor." Using the concepts of normative economics, comment on the idea that the "market" outcomes of low wages and poor working conditions constitute slave labor.

Answer: The job of the labor market is to promote mutually beneficial transactions, and to work well the market must be characterized by the absence of barriers to the accomplishment of these transactions. Enslavement implies the lack of ability to transact freely, so slavery is inconsistent with the goal of accomplishing mutually beneficial transactions. While low wages and poor working conditions do characterize slavery, they may be accepted *voluntarily* by workers whose alternatives (for example, those in their country of origin) are even worse. Thus, low wages and poor working conditions do not necessarily imply the existence of slavery.

3. Consider the following statement: "The government should not let the income of those who lose their jobs fall below what they were previously earning." Does this statement fall into the category of normative economics? Explain.

Answer: Economic theory, used normatively, is concerned with mutually beneficial transactions and the condition of Pareto efficiency. While the above statement is normative, in that it indicates what the government should do, it is "redistributive" in nature and does not address the concept of mutually beneficial transactions. To be categorized as within the scope of "normative economics," a statement must in some way address the standards economists apply toward the achievement of Pareto efficiency: Can all parties gain by a transaction? Can some gain without anyone else losing? If some gain and some lose, can the gainers compensate the losers?