Instructor's Manual with Solutions Manual

Principles of Microeconomics

FOURTH EDITION

N. Gregory Mankiw
Harvard University

Prepared by

Linda Ghent
Eastern Illinois University

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Principles of Microeconomics, 4th Edition

N. Gregory Mankiw
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Printed in the United States of America
1 2 3 4 5 09 08 07 06

ISBN 0-324-31908-8

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Thomson Higher Education
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Preface

The instructor's material that accompanies the five versions of Mankiw's *Principles of Economics, Fourth Edition* textbooks address the needs of both novice and experienced instructors. To meet the needs of these two groups, this *Instructor's Manual with Solutions Manual* comprises both chapter outlines and teaching tips as well as solutions to all of the questions and problems found in the textbook.

Linda Ghent of Eastern Illinois University prepared the main portion of each chapter including a synopsis of what is new in this edition compared to the third edition. Her work for each chapter also includes a list of learning objectives and key points. These items are followed by detailed chapter outlines that focus on the content found in the textbook. Helpful tips and icons occasionally interrupt these outlines. The bomb icon (Warnings) indicates areas where students may have particular difficulty with the material. The light bulb icon (Bright Ideas) offers ideas for presenting the material in a new or more thoughtful way. Also included in each chapter of the *Instructor's Manual* are classroom activities, developed in part by Charles Stull of Kalamazoo College. Each activity provides important details to assist in planning as well as clear instructions for leading the activity. Recommended "Points for Discussion" connect the activity to the relevant economic concepts discussed in the chapter.

Using these resources, an instructor can quickly review the chapter learning objectives and chapter summaries to make sure their lecture notes cover everything in the text chapter. In addition, the chapter outlines are designed as a base for creating lecture notes for novice instructors. They may also be used as a complete set of notes for more experienced instructors. Therefore, this supplement is also available electronically from the product support Web site (http://mankiw.swlearning.com).

For queries and grading, the *Instructor's Manual* contains solutions to exercises from the textbook. Dean Croushore (University of Richmond) prepared many of the solutions for the "Quick Quizzes," " Questions for Review," and "Problems and Applications" found in the textbook.

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1 TEN PRINCIPLES OF ECONOMICS

WHAT'S NEW IN THE FOURTH EDITION:

The discussion of Principle #3, "Rational people think at the margin," is more thorough and has a new example. The discussions of Principle #4, "People respond to incentives," Principle #7, "Governments can sometimes improve market outcomes," and Principle #10, "Society faces a short-run trade-off between inflation and unemployment" have been clarified. Definitions for the terms "rational," "incentives," and "property rights" have been added.

LEARNING OBJECTIVES:

By the end of this chapter, students should understand:

- that economics is about the allocation of scarce resources.
- that individuals face trade-offs.
- the meaning of opportunity cost.
- how to use marginal reasoning when making decisions.
- how incentives affect people's behavior.
- why trade among people or nations can be good for everyone.
- why markets are a good, but not perfect, way to allocate resources.
- what determines some trends in the overall economy.

CONTEXT AND PURPOSE:

Chapter 1 is the first chapter in a three-chapter section that serves as the introduction to the text. Chapter 1 introduces ten fundamental principles on which the study of economics is based. In a broad sense, the rest of the text is an elaboration on these ten principles. Chapter 2 will develop how economists approach problems while Chapter 3 will explain how individuals and countries gain from trade.

The purpose of Chapter 1 is to lay out ten economic principles that will serve as building blocks for the rest of the text. The ten principles can be grouped into three categories: how people make

b. Using the midpoint method involves calculating the percentage change in either price or quantity demanded by dividing the change in the variable by the midpoint between the initial and final levels rather than by the initial level itself.

c. Example: the price rises from \$4 to \$6 and quantity demanded falls from 120 to 80.

% change in price = (6 - 4)/5 × 100% = 40%

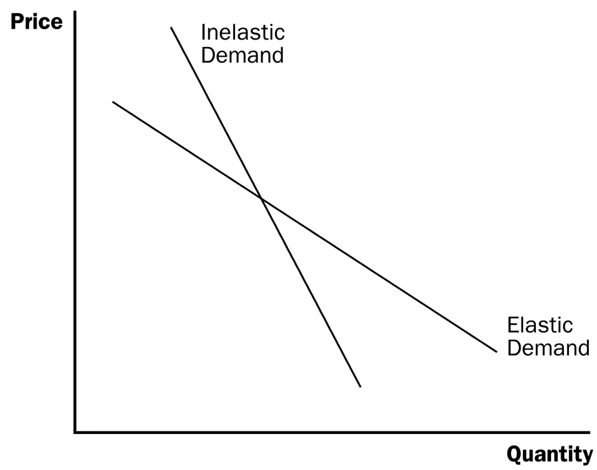
% change in quantity demanded = (120-80)/100 = 40%

price elasticity of demand = 40/40 = 1

$$\text{Price elasticity of demand} = \frac{(Q_2 - Q_1)/[(Q_1 + Q_2)/2]}{(P_2 - P_1)/[(P_1 + P_2)/2]}$$

E. The Variety of Demand Curves

Figure 1



To clearly show the differences between relatively elastic and relatively inelastic demand curves, draw a graph on the board showing a relatively flat demand curve and one showing a relatively steep demand curve. Show that any given change in price will result in a larger change in quantity demanded if the demand curve is relatively flat. Use the same method when discussing the shape of the supply curve later in the chapter.

1. Classification of Elasticity

a. When the price elasticity of demand is greater than one, demand is elastic.

more wine, so they would hire more workers. Tax revenue would go to the government of Washington. So both claims are true, but it is a bad policy because the losses to Washington consumers exceed the gains to producers and the state government.

7. Senator Hollings is correct that the price of clothing is the world price. When trade is allowed, the domestic price of clothing is driven to the world price. The price is lower than it would be in the absence of trade, so consumer surplus is higher than it would be without trade and this means that consumers *do* benefit from lower-priced imports.

8. a. Figure 9 shows the market for T-shirts in Textilia. The domestic price is $20 Once trade is allowed, the price drops to $16 and three million T-shirts are imported.

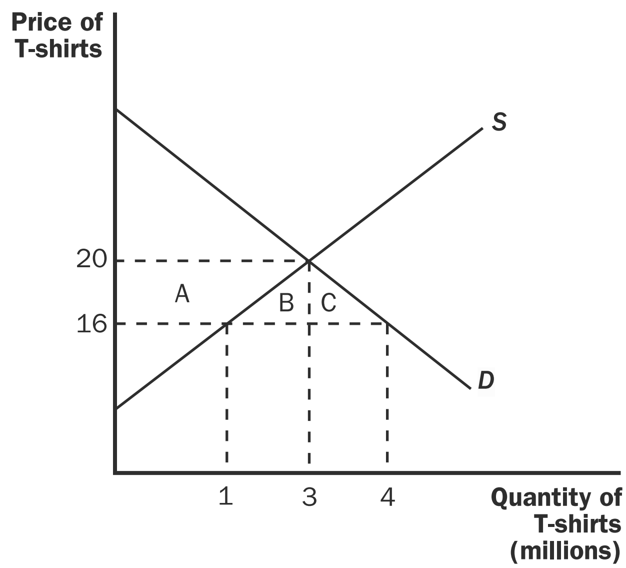


Figure 9

b. Consumer surplus increases by areas A + B + C. Area A is equal to ($4)(1 million) +(0.5)($4)(2 million) = $8 million. Area B is equal to (0.5)($4)(2 million) = $4 million. Area C is equal to (0.5)($4)(1 million) = $2 million. Thus, consumer surplus increases by $14 million.

Producer surplus declines by area A. Thus, producer surplus falls by $8 million.

Total surplus rises by areas B + C. Thus, total surplus rises by $6 million.

9. a. This statement is true. For a given world price that is lower than the domestic price, quantity demanded will rise more when demand is elastic. Therefore, the rise in consumer surplus will be greater when demand is elastic.

b. This statement is false. There would be no gain from trade only if demand is perfectly inelastic.

c. This statement is false. As long as quantity demanded rises when trade is allowed, consumer surplus will rise.

10. a. When a technological advance lowers the world price of televisions, the effect on the United States, an importer of televisions, is shown in Figure 10. Initially the world price

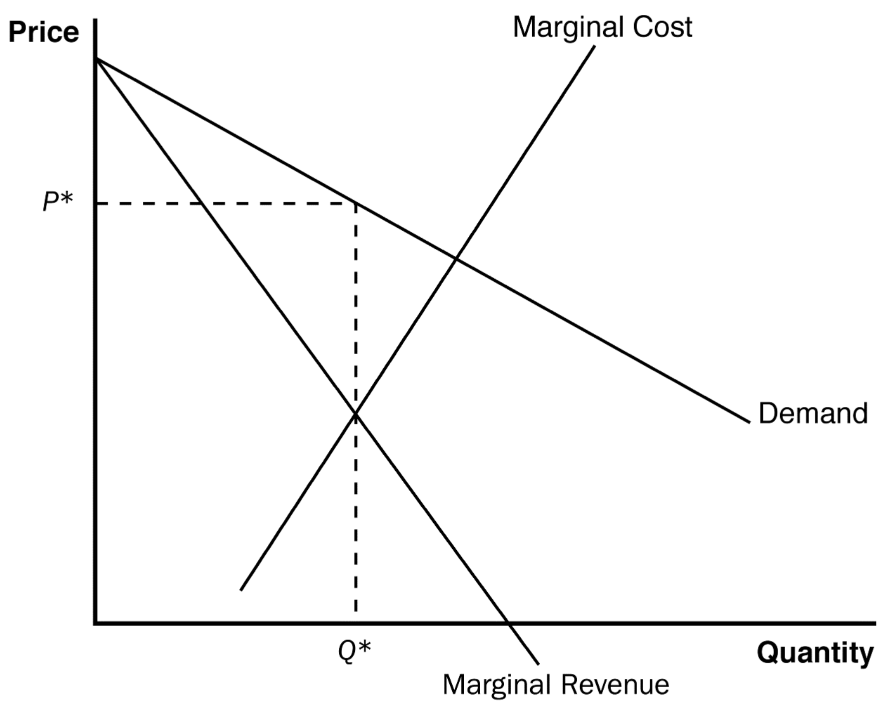
3. The monopolist's price is determined by the demand curve (which shows us how much buyers are willing to pay for the product).

ALTERNATIVE CLASSROOM EXAMPLE:
The costs for the Whatsa Widget Company can be represented by the following schedule:

Quantity	**Total Cost**	**Marginal Cost**
0	$8	----
1	11	$3
2	16	5
3	26	10
4	39	13
5	57	18

Using the earlier information regarding the demand for widgets, have the students find the profit-maximizing level of output (where marginal revenue is equal to marginal cost). Use the information on total revenue and total cost to calculate the level of maximum profit.

Figure 4



After having seen profit-maximization for a perfectly competitive firm, students generally do not have difficulty understanding that a monopolist will maximize profit where marginal revenue equals marginal cost. However, students do have trouble remembering to use the demand curve to find the monopolist's price. Thus, be careful to review this point several times.

10. a. The following table shows pre-tax income, taxes paid to the government (a negative amount means money is received from the government), and after-tax income:

Pre-Tax Income	Taxes	After-Tax Income
$ 0	$ –10,000	$10,000
10,000	–5,000	15,000
20,000	0	20,000
30,000	5,000	25,000
40,000	10,000	30,000

b. The marginal tax rate is 50 percent, since an increase in pre-tax income of $10,000 leads to higher taxes of $5,000. The maximum income at which a family receives money from the government is $19,999.99.

c. The change in the tax schedule gives a marginal tax rate of 25 percent. The maximum income at which a family receives money from the government is now $39,999.99.

d. The advantage of the first tax schedule is that the after-tax income distribution would be more equal. The advantage of the second tax schedule is that the marginal tax rate would be lower, so it would not cause as much of a distortion to labor supply.

11. Since John believes that labor supply is highly elastic, he will want less redistribution of income, because elastic labor supply means a greater distortion from redistributive policies.