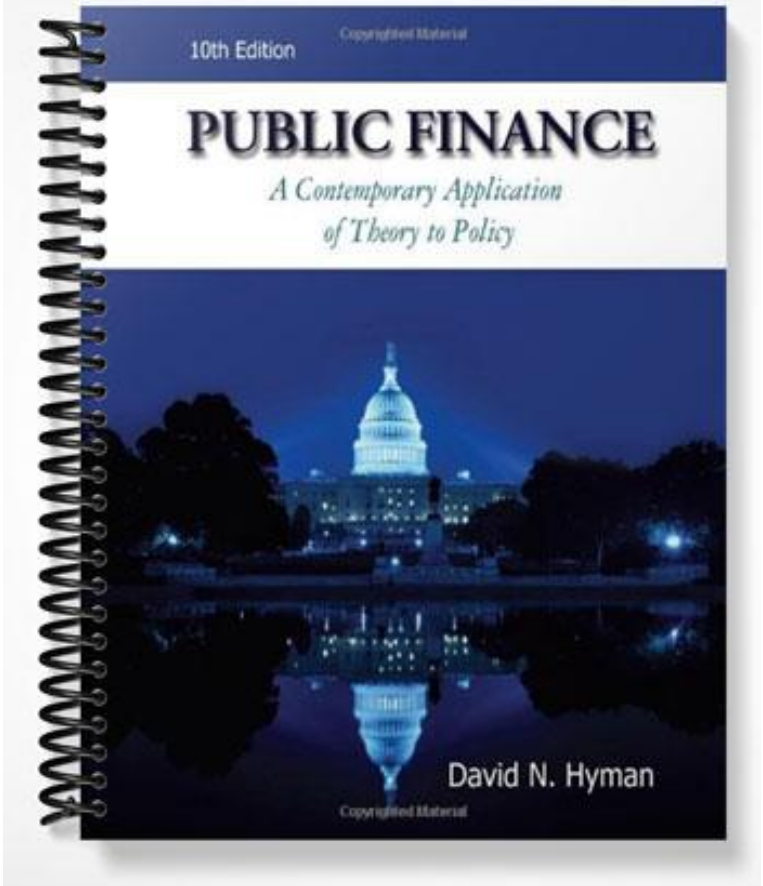
TEST BANK


10th Edition
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PUBLIC FINANCE
A Contemporary Application
of Theory to Policy
David N. Hyman
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INSTRUCTOR'S MANUAL AND TEST BANK TO ACCOMPANY HYMAN, PUBLIC FINANCE 10E

CONTENTS

Preface .....

PART ONE **The Economic Basis of Government Activity**

1 Individuals and Government .....
2 Efficiency, Markets, and Government.....
3 Externalities and Government Policy.....
4 Public Goods .....
5 Public Choice and the Political Process .....

PART TWO **Government Expenditures and Policy in the United States: Selected Issues**

6 Cost-Benefit Analysis and Government Investments.....
7 Government Subsidies and Income Support for the Poor.....
8 Social Security and Social Insurance.....
9 Government and Health Care .....

PART THREE **Financing Government Expenditures**

10 Introduction to Government Finance.....
11 Taxation, Prices, Efficiency, and the Distribution of Income .....
12 Budget Balance and Government Debt .....

PART FOUR **Taxation: Theory and Structure**

13 The Theory of Income Taxation.....
14 Taxation of Personal Income in the United States.....
15 Taxation of Corporate Income.....
16 Taxes on Consumption and Sales.....
17 Taxes on Wealth, Property, and Estates .....

PART FIVE **State and Local Government Finance**

18 Fiscal Federalism and State and Local Government Finance.....

PREFACE

This instructor's manual has been designed to complement classroom use of *Public Finance: A Contemporary Application of Theory to Policy*, tenth edition. The manual concisely states the instructional objectives of each chapter and provides an outline of each chapter. The major points are summarized, and suggestions for lectures are provided. I have tried to point out areas of possible confusion for students, based on my own teaching experience. My goal has been to give instructors who do not have time to read all the material in the text a capsule discussion of important topics and their reason for inclusion in each chapter. Each chapter of this instructor's manual has a brief section that describes the chapter revisions that were made since the ninth edition of the text.

This instructor's manual also includes a test bank to be used as an aid when making up examinations. I have tried to include questions that require students to use theory to arrive at an answer. Supplied in this manual are true/false questions, multiple choice questions, and essay questions for each chapter. Answers to the problems that appear at the end of each chapter in the text are also included.

Public Finance: A Contemporary Application of Theory to Policy has been designed as a teaching tool that integrates theory and policy. I hope that this manual makes it easier for instructors to assist their students in mastering the theory and in understanding the relevance of the factual material provided in the text.

Thanks to Kevin Balsam and Tom Arnold for their assistance in authoring this manual.

David N. Hyman
January 2010

CHAPTER 1

Individuals and Government

INSTRUCTIONAL OBJECTIVES

Chapter 1 is a general introduction to the field of public finance, emphasizing the relationship between individuals and government. The functions of government are outlined, and the importance of taxes in household budgets is highlighted. The chapter seeks to develop an understanding of the economic role of government as a supplier of useful goods and services. Students are also expected to digest data on the actual extent of government activity in the United States and other nations. They should know the current structure of government expenditures and revenues in the United States, how government has grown since 1920, and how the structure of federal government spending has changed since 1960.

In addition, the chapter seeks to demonstrate that the problem of scarcity implies that an increase in resources devoted to government goods and services decreases availability of resources for nongovernment uses. It is also made clear to students how government provision of goods and services differs from market provision of goods and services.

CHANGES IN THIS EDITION

Chapter 1 has a new introduction that discusses the growth in government spending, the impact of the recession on public finance on the federal, state and local government levels, and health care issues. All data on government spending and revenues have been updated to 2008 or the latest available year. Public expenditure data have been revised using the latest NIPA data for government consumption and investment documenting the rise in the share of the public sector to 35 percent of GDP since 2001. The data now include all years from 1929 to 2008 based on latest NIPA revisions. The *International View* on government spending has been revised and updated with the latest empirical data. Graphs have been redone to reflect the latest available observations. The discussion of the mix between transfer payments and government consumption has been revised to reflect changes in NIPA accounting. The growth in health care spending by the government has been documented showing that it is now the largest category and fastest growing category of federal government expenditure. More analysis of state government spending is provided in the revised *Public Policy Perspective* entitled "The State of State Finances 2009-2010: Impact of a Recession". The impact of the recession on revenues and spending is discussed along with provisions of the *American recovery and Reinvestment Act of 2009*, the affecting state governments and the federal government mandates that influence state spending. The analysis of the implications of aging populations for public finance has been updated based on empirical analysis of the latest U.N. projections of changing world demographics.

CHAPTER OUTLINE

Individuals, Society, and Government

Governments and Political Institutions

The Allocation of Resource between Government and Private Use
    How Government Goods and Services Are Distributed

The Mixed Economy, Markets, and Politics
    Circular Flow in the Mixed Economy

International View: How Much Government? The Share of Government Expenditure in Modern Economies

Government Expenditures in the United States
    Growth of Government Expenditures
    Structure of Federal Government Expenditure

The Structure of State and Local Government Expenditure

Financing Government Expenditure in the United States

Public Policy Perspective: The State of State Government Finances 2009-2010: Impact of a Recession

Market Failure and the Functions of Government: How Much Government is Enough?

Aging Populations: Implications for Public Finance

MAJOR POINTS AND LECTURE SUGGESTIONS

1. My objective in the first lecture is to make it clear to students how economic analysis of the functions and activities of governments fits in with their other courses. Since most students have already had at least one course in microeconomics, I point out how governments can be thought of as agents for supplying goods and services whose quantities have been determined through political, as opposed to market, interaction. The role of government in the mixed economy is schematically illustrated with a modified circular flow diagram. Figure 1.2 represents a useful starting point for illustrating how the economic analysis of government fits in with previous analyses of markets to which most students will have already been exposed. I usually draw the diagram on the board and show how both households and business firms have economic relations with governments.

2. The tradeoff between government goods and services, and private goods and services is illustrated with the production possibility curve. Figure 1.1 is familiar to most students, and its application to analysis of government goods and services usually captures their attention. It helps to use the graph in class to discuss reallocation of resources from military to nonmilitary uses. Another interesting use of the graph is to show how increased environmental quality improvement services supplied by government will require the sacrifice of material goods and services, as the prices of such products as fuel, electricity, and automobiles rise.

3. Emphasize that government goods and services are usually made available through nonprice rationing:

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a. Government goods are often available for collective use at no direct charge, as is the case for roads, national defense, police services, fire protection, and environmental protection.

b. Eligibility for obtaining the benefits of government services is determined by criteria other than ability and willingness to pay. Politically determined criteria, such as age, income, family status, and location of residence, often determine a person's eligibility to receive government transfers, such as food stamps, and services, such as public schooling.

4. A general listing of the functions of government, as discussed in the text, is useful to students. These functions are as follows:

a. Provision of useful goods and services, including the establishment of property rights and the underlying legal system

b. Redistribution of income and economic opportunity among citizens

c. Stabilization (Note that this is not covered in the text.)

d. Regulation of private action

5. Note that the discussion of government finance in the chapter briefly outlines the fact that the consequences of alternative means of finance differ in terms of the impact on incentives to produce and on the distribution of well-being.

6. I usually photocopy the tables in Chapter 1 and bring them to class for the second lecture. I believe that it is important for students to have some appreciation of the current extent of government and the growth of expenditures and revenues in recent years.

7. In addition to illustrating the growth of government, I seek to show how the structure of federal government expenditure has changed significantly since 1960. First, point out to students the spectacular growth in the relative importance of transfers from 1960 to 1980. You can also point out that transfers stabilized at close to 40 percent of federal spending in the 1970s. After declining slightly as a share of federal spending in the 1980s, they rose again in the 1990s, and now account for about 43 percent of federal spending. Federal government purchases of goods and services for consumption and investment has declined over 60 percent of federal spending in 1960 to 27 percent in 1999. Since the end of the Cold War, purchases have declined as defense spending has been cut back. However, the terrorist attacks of September 11, 2001, have resulted in both increased government spending and a shift away from transfers toward government consumption.

8. In discussing actual expenditures, use Table 1.3 and the accompanying pie chart to show the importance of Social Security, income security, Medicare, and health for the federal government, and point out that these programs account for about 60 percent of federal government expenditures. Also point out that 34 percent of state and local government expenditure is accounted for by education. Health care spending by state and local governments, mainly for Medicaid, has been growing rapidly and now accounts for 20 percent of state and local government spending.

9. Use the data and accompanying pie charts in the chapter to show students how income taxes, including payroll taxes and corporate profits taxes, account for more than 90 percent of federal government revenue. Also point out that sales and property taxes account for nearly half of state and local government revenues and that one in five dollars of receipts received by state and local governments comes from federal grants-in-aid.

10. Many instructors are now spending more time in class discussing state and local government fiscal problems. A section in Chapter 1 discusses the structural problems that are underlying state government budgets and discusses the situation and impact on budgets for selected states that have been particularly hard hit be revenue shortfalls.

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11. Aging of populations has implications for public finance especially for Social Insurance programs. A section in this chapter provides information on aging of the population, dependency ratios worldwide along with implications for government spending.

ANSWERS TO TEXT PROBLEMS

1. Given a point on the old production possibility curve, the outward shift allows movement in the northeast direction to a point on the new production possibility curve corresponding to an increase in production of both private and government goods and services.

2. The increased allocation of resources to government provision of health services implies that fewer resources can be used for other goods and services. The student should plot health care services on one of the axes and "all other goods and services" on the other axis. As production of health care services increases, given fixed resources and technology, production of other goods and services must decline.

3. Social Security pensions are government transfers. Except for a small amount of purchases for personnel and other resources to administer the transfer, no government purchases are required.

4. The debt accumulated by past budgets amounts to many times more than the amount of federal spending. It will take many years to retire the outstanding debt. The interest on the outstanding debt will have to be paid for many years until the debt is retired. Running a budget surplus would accelerate the rate of debt repayment.

5. A slowdown in the economy during the recession in 2007 to 2009 sharply reduced tax collections for many state governments. During the booming 1990s, many state governments also cut tax rates. As income tax collections and sales tax collections have fallen budget deficits have increased. Also contributing to the deficits were sharp increases in state government spending for medical assistance to the poor. Because state governments are required by law to balance their budgets, they must either raise taxes, cut spending, or find other ways of generating revenue when a deficit is forecast. State governments rely heavily on both income taxes and sales taxes. Sales taxes are typically not levied on services and because services as a share of consumer spending has been rising, sales tax collections have been growing more slowly than expected.

6. Even though many programs are federally funded, such as, Medicare, programs such as Medicaid are partially state funded. Consequently, the aging population will increase state expenditures as Medicaid and other healthcare programs become more expensive due to increased demand. The aging population will also impact state government revenue as the population leaves the workforce and contribute less and less in the form of personal income tax, sales tax and property tax.

7. This answer is more in the form of an opinion, but should be based on Figure 1.1. The key observation in the student's answer is that all the spending cuts/additions suggested should still proportionately add to 100% with justifications for increases and decreases in spending.

A NOTE ON THE APPENDIX TO CHAPTER 1

The appendix to Chapter 1 is a concise review of basic microeconomic principles used throughout the text. The material is designed to aid students with weak backgrounds in basic economic theory. It also provides a convenient reference for students who wish to review basic concepts as they are needed. I advise my students to read the appendix, but I do not cover any of the material in class.

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OUTLINE OF THE APPENDIX TO CHAPTER 1

Indifference Curve Analysis
- Assumptions about Preferences
- Indifference Curves and Indifference Maps
- The Budget Constraint
- Consumer Equilibrium
- Changes in Income and Prices
- Income and Substitution Effects of Price Changes
- The Law of Demand
- Price Elasticity of Demand
- Consumer Surplus
- Using Indifference Curves to Explain the Allocation of Time

Analysis of Production and Cost
- Isoquant Analysis
- Cost

Profit Maximization, Competition, and Supply
- Perfect Competition
- The Short-Run Supply Curve
- Producer Surplus
- Long-Run Supply
- Price Elasticity of Supply

TRUE/FALSE QUESTIONS

1. On average, persons in the United States devote more of their annual budgets to taxes than they do to food. (T)

2. A universally observed function of government is the establishment of property rights. (T)

3. The total share of GDP accounted for by government spending in the United States has declined significantly since 1980. (F)

4. In 1929, the federal government spent more than was spent by state and local governments. (F)

5. Since 1930, the percent of GDP devoted to government expenditures has more than tripled. (T)

6. The costs imposed by government regulations on business firms are included in budget data on government expenditures. (F)

7. Government consumption does not require resources to be reallocated from private to government use. (F)

8. Since 1959, the percent of federal government expenditures devoted to transfers has increased by more than 50 percent. (T)

9. Transfer payments, including Social Security and welfare and medical assistance, account for nearly 60 percent of federal government expenditures. (T)

10. Interest on the federal government's debt accounts for about 20 percent of federal government expenditure. (F)

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11. Federal grants-in-aid to state and local governments finance about 20 percent of annual spending by these governments. (T)

12. The federal government allocates about 10 percent of its budget to Social Security. (F)

13. State and local governments in the United States spend a bit more than one-third of their budgets on education. (T)

14. Sales taxes account for about 22 percent of state and local government revenue in the United States. (T)

15. The federal government obtains about half of its revenue annually from retail sales taxes. (F)

16. State governments do not fund any part of Medicaid. (F)

17. The *social compact* is an 18th century idea by political theorists. (F)

18. The proportion of revenue received by the federal government from payroll taxes is higher than the proportion of revenue received by state and local governments from payroll taxes. (T)

MULTIPLE CHOICE QUESTIONS

1. The real cost of government goods and services is:

a. money.
b. taxes.
c. the private goods and services foregone.
d. inflation.

2. If the economy is currently operating on a point on the production possibility curve for government goods and services versus private goods and services,

a. an annual increase in government goods and services can be obtained without any sacrifice of annual private goods and services.
b. it will be impossible to increase annual output of government goods and services.
c. a decrease in the annual output of government goods and services will have no effect on the annual output of private goods and services.
d. a decrease in the annual output of government goods and services will allow an increase in annual output of private goods and services.

3. Government goods and services are usually:

a. not rationed by prices.
b. sold in markets.
c. made available to persons according to their willingness and ability to pay.
d. financed by revenue obtained from sales.

4. Taxes:

a. are prices paid for the right to consume government goods and services.
b. are compulsory payments not directly related to the benefits received from government goods and services.
c. never affect economic incentives.
d. are used by private firms to raise revenue.

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5. A mixed economy is one in which:
   a. there are no markets.
   b. government activity accounts for a significant proportion of the value of goods and services produced.
   c. there is no government.
   d. all goods and services are sold in markets.

6. Government purchases for consumption and investment:
   a. are made to acquire resources necessary to produce government goods and services.
   b. are designed to redistribute purchasing power among citizens.
   c. have increased in importance as a percent of federal spending since 1959.
   d. do not withdraw resources from private use.

7. Transfer payments by the federal government in the United States account for about:
   a. 25 percent of federal government expenditures.
   b. 10 percent of federal government expenditures.
   c. 40 percent of GDP.
   d. 60 percent of federal government expenditures.

8. Total annual expenditures by federal, state, and local governments in the United States in the 1990s accounted for roughly:
   a. 20 percent of annual GDP.
   b. 30 percent of annual GDP.
   c. 50 percent of annual GDP.
   d. 75 percent of annual GDP.

9. Federal government expenditures in the United States account for about:
   a. 23 percent of annual GDP.
   b. 33 percent of annual GDP.
   c. 43 percent of annual GDP.
   d. 53 percent of annual GDP.

10. About 80 percent of federal receipts are accounted for by:
   a. corporate profits taxes.
   b. sales taxes.
   c. excise taxes.
   d. payroll and personal income taxes.

11. If the economy is operating at full employment and using resources efficiently, then an increase in spending for homeland security this year will:
   a. require that resources be reallocated to homeland security services without sacrificing any alternative goods and services.
   b. be possible if resources are reallocated to homeland security services, but it will also mean that the output of some other goods and services will have to fall.
   c. be impossible.
   d. be possible only if there is an improvement in technology or more resources made available.

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12. Which of the following is an example of a political institution?

a. a market
b. elections with winners determined by majority rule
c. representative government
d. both (b) and (c)

13. Nonmarket rationing means that:

a. those willing to pay can buy as much of a product as they choose.
b. prices are used to sell products.
c. goods and services are not rationed by prices.
d. willingness to pay is not a factor in determining who can enjoy a good or service.
e. both (c) and (d)

14. The U.S. economy is best characterized as a:

a. pure market economy.
b. socialist economy.
c. pure capitalistic, free-enterprise system.
d. mixed economy.

15. State and local government expenditure in the United States accounts for about:

a. 32 percent of GDP.
b. 22 percent of GDP.
c. 12 percent of GDP.
d. 7 percent of GDP.

16. Following the circular flow of a mixed economy, firms receive a flow of dollars from and send goods and services to:

a. Output Markets.
b. Input Markets.
c. Households.
d. Government.

17. Following the circular flow of a mixed economy, which entity or entities distribute resources?

a. Firms only.
b. Input Markets only.
c. Government and Households.
d. Households and Input Markets.

18. When has the U.S. experienced government expenditures in the range of 40% to 50% of GDP?

a. 2000 to 2009.
b. 1950 to 1959.
c. 1940 to 1949.
d. It has never happened.

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19. In 2008, which country listed below has the highest percentage of government spending relative to GDP?

a. France.
b. Ireland.
c. Japan.
d. Canada.

20. The old-age dependency ratio is:

a. the proportion of the population that is 60 years or older over the proportion of the population that is less than 60 years of age.
b. the proportion of the population that is 65 years or older over the proportion of the population that is 15 to 64 years of age.
c. the proportion of the population that is 70 years or older over the proportion of the population that is 20 to 69 years of age.
d. the total government expenditure on programs for the elderly over the number of citizens that are 65 years or older.

ESSAY QUESTIONS

1. Taxes are likely to affect the incentives that persons have to use their own resources in the most productive way. Suppose that the taxes used to finance G_1 units of government goods and services could purchase X_1 units of private goods and services. Assume that more than X_1 units of private goods and services could be produced if taxes did not impair incentives to produce. Use the production possibility curve to illustrate the effect of taxes on the output mix in the economy. Show the loss in private output from taxes on your graph. Show how an improvement in the technology of producing government goods and services will affect the production possibility curve.

2. What is the difference between transfer payments and government purchases? How has the mix of transfers and government purchases changed in the federal budget since 1960? List the most important transfer payments in the federal budget. What significant changes have occurred in the mix of all categories of federal government expenditures since 1960?

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CHAPTER 2

Efficiency, Markets, and Government

INSTRUCTIONAL OBJECTIVES

The main objective of this chapter is to develop the concept of efficiency and show students how it is used to evaluate economic performance. To begin the discussion, it is necessary to draw the distinction between positive and normative economics. Both of these approaches are used in the chapter. An additional instructional objective is therefore to demonstrate the usefulness of each type of analysis.

The concept of efficiency is carefully linked to resource allocation and economic transactions. The chapter also introduces the student to marginal analysis of resource allocation. The distinction between total social cost and benefit, and marginal social cost and benefit is drawn for students. Graphic analysis is then used to derive the marginal conditions for efficiency. The objective is to show students that maximization of net social benefit requires that all activities be undertaken in each time period up to the point at which MSB = MSC.

The analysis is then used to evaluate resource allocation in competitive markets operating under conditions of perfect competition with no externalities. This is followed by examples showing how monopoly power and government intervention can result in losses in efficiency in markets. The objective here is to show how welfare triangles can be used to measure losses in well-being when efficiency is not achieved.

The equity-efficiency tradeoff is also introduced in the chapter. The utility possibility curve is used to show students how citizens often rationally oppose movements to efficient resource use when compensation for losses in well-being is not actually paid. Positive analysis of the equity-efficiency tradeoff is also provided, thereby closing the chapter with an illustration of how the positive approach is useful to normative analysis.

CHANGES IN THIS EDITION

The *Public Policy Perspective* on the impact of the tax system on the birthrate has been updated to reflected changes in the tax law.

CHAPTER OUTLINE

Positive and Normative Economics

Normative Evaluation of Resource Use: The Efficiency Criterion
- Marginal Conditions for Efficiency

Markets, Prices, and Efficiency Conditions
- When Does Market Interaction Fail to Achieve Efficiency?
- Monopolistic Power
- How Taxes Can Cause Losses in Efficiency in Competitive Markets
- How Government Subsidies can cause Losses in Efficiency

Market Failure: A Preview of the Basis for Government Activity

Equity versus Efficiency
- The Tradeoff between Efficiency and Equity: A Graphic Analysis

Public Policy Perspective: The Tax System and the Birth Rate—An Example of Positive Economic Analysis

- The Tradeoff between Equity and Efficiency in a System of Competitive Markets

Positive Analysis Tradeoff Between Equity and Efficiency

Global Perspective: Agricultural Subsidies, International Trade Restrictions, and Global Efficiency

MAJOR POINTS AND LECTURE SUGGESTIONS

1. Instructors may wish to emphasize the difference between the normative and positive approaches. The normative approach is based on underlying values that embody an individualistic ethic. The positive approach is simply a scientific method used to formulate hypotheses subject to empirical verification. I point out to my students that the normative approach in public finance sets up benchmarks against which the impact of government regulations, expenditures, and taxes can be evaluated.

2. There are two aspects of efficiency that are useful to emphasize in lectures:

a. Efficiency, as the term is commonly used by the layperson, simply means avoidance of waste in achieving any useful objective. Students are most likely already familiar with this aspect of efficiency.

b. The second aspect of efficiency deals with exchange. Even when production is accomplished without waste, additional net gains are usually possible through mutually agreeable exchanges.

In discussing the second aspect of efficiency, with which students are less familiar, you can point out that freedom to trade is an important aspect of efficiency. Constraints on mutually agreeable trade thereby prevent attainment of efficiency when no third parties are affected by those transactions.

3. The derivation of the marginal conditions for efficiency provides a good opportunity to review marginal analysis for students. Make sure to confine your discussion to a particular good. The example in the text uses bread. I find that students are quite receptive to the notion that net social gains are maximized when each possible good or service is made available up to the point at which MSB = MSC. The inclusion of the total social benefit and total social cost curves in Figure 2.1 in

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the text helps students see how additional production of goods is inefficient beyond the point at which MSB = MSC, even though TSB > TSC for additional output.

4. Notice how the marginal net benefit is defined as the difference between the marginal social benefit and the marginal social cost of any given quantity of a good.

5. After deriving the efficiency conditions, I like to reinforce the theory by immediately showing students how the marginal conditions are satisfied under ideal conditions in perfectly competitive markets. In doing so, I introduce the concepts of marginal private benefit and marginal private cost. I show how P = MPB = MPC in competitive markets. Finally, I set the stage for future analysis in Chapter 3 by pointing out that, provided no third parties (other than buyers and sellers) are affected by market exchanges, P = MSB = MSC. Because these conditions are used throughout the text, it is important for students to understand the derivation. I find that students have little difficulty with the exposition. If you get the significance of these points across early in the course, it is easy to show how taxes and subsidies prevent prices from simultaneously reflecting marginal social costs and benefits.

The numerical example in the text has been helpful to my students. Note that I use the same numbers when discussing competitive markets for bread.

6. The obvious next step is to provide your students with examples of cases for which markets *do not* achieve efficiency. The exercise of monopoly power is a good example of how lack of competition in markets can cause losses in efficiency. This example can then be supplemented with analysis of the effects of taxes and subsidies on private choices in markets. The example of target prices for agriculture in the United States shows how subsidies to agriculture result in more than the efficient amount of resources allocated to agricultural uses.

You might wish to supplement these examples with some of your own. In any case, the main instructional objective is to show students how losses in well-being resulting from inefficient output levels can be measured as triangular areas in the graphs.

The *Public Policy Perspective* shows students how the personal exemption in the U.S. income tax can be viewed as a subsidy to raising children.

7. I believe that it is important to emphasize the equity-efficiency tradeoff early in the course. This provides an opportunity to show how the positive approach can be used to predict the net gains and losses to citizens. The utility possibility curve is a good tool to illustrate political conflict. First make sure that students see the similarity between the utility possibility curve and the production possibility curve. In particular, point out that the maximum possible level of well-being of any one person, given the well-being of others, depends on resources available and technology. The curve also shows how there is no one unique efficient allocation of resources. It can be used to show how the efficient outcomes of competitive interaction can result in a distribution of well-being for which many persons live in poverty.

8. I like to use the utility possibility curve to show how changes in resource allocation can result in both gainers and losers even when there is movement from inefficient to efficient resource use. Unless compensation is actually paid, the losers act to prevent the resource change that makes them worse off.

ANSWERS TO TEXT PROBLEMS

1. The marginal social benefit of the first concert is $10,000, and its marginal social cost is $5,000. The marginal social benefit of a second concert is $5,000, which falls short of its marginal social

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cost of $6,000. The efficient number of concerts is one. After the first concert, the marginal social cost exceeds the marginal social benefit.

2. a. The efficient output is the one for which P = MC. If sold in a competitive market, the price of a television would be $100 and the quantity sold would be 200,000 – 500(100) = 150,000.

b. If sales were limited to 100,000 per year, the marginal social benefit of TVs would exceed the marginal social cost. Students should draw a graph showing the resulting loss of net benefits as a triangle *above* the marginal cost line and *under* the demand curve between the outputs of 100,000 and 150,000. If there is a complete ban on TV sales, the loss in net benefits will be the entire area under the demand curve and above the marginal cost curve corresponding to the consumer surplus from TV sales.

3. The senator's logic is false. Equating the marginal social benefit of a service with its marginal social cost maximizes net gains. If output is increased to the point at which TSB = TSC, there will be more than the efficient amount of resources devoted to space exploration.

4. The price support for rice will increase annual production beyond the efficient level. At the price support, the marginal social cost of rice will exceed its marginal social benefit.

5. At the current market equilibrium under perfect competition, MSB = MSC = $100, implying efficiency. The $10 per night tax results in an increase in the market equilibrium price of hotel rooms. At the higher prices, MSB exceeds MSC. The graph used to answer this question should be similar to Figure 2.3 in the text. The loss in net benefits would be an area like E'EB in Figure 2.3.

6. Pareto Optimality is when resources are allocated in such a manner in which it is impossible to increase the well-being of any one person without reducing the well-being of any other person. The corresponding supply and demand curve (Supply = MSC and Demand = MSB) should look similar to Figure 2.1A. At the intersection of MSC and MSB, quantity = 1,000 and price = $250,000. The exchange is optimal because MSC = MSB. The use of eminent domain forces homeowners out of houses which is not to the homeowners' benefit, thus violating Pareto Optimality. Further, there becomes a need for more houses to be available which can only exist by increasing home prices to offset the necessary increase in MSC (diagram similar to Figure 2.4). Homeowners who receive $250,000 for their homes from the government will need to pay a higher price to buy a new home due to the need for the increased supply in homes. In this case MSC will exceed MSB and not be optimal.

7. The equity based justification is that "rich" consumers should be taxed to distribute income to "poorer" entities through government sponsored social programs. The diagram should look like Figure 2.1A with a price "P" and a quantity "Q" at equilibrium (note: "evenly spread" means P*(1+X) on the supply curve equates to P*(1 – X) on the demand curve). Next, impose the tax by drawing a second supply curve that intersects the original demand curve at price "P(1 +10%)" and quantity "Q*50%" similar to Figure 2.3. The government gains 10%*P*(50%*Q) = 5%*PQ. The loss is the triangle with a base of P*20% = P*(1 + 10%) – P*(1 – 10%) and a height of 50%*Q = Q – 50%*Q. The area is (P*20%)*(50%*Q) / 2 = 5%*PQ which is equal to the government gain. Given the construct of the supply and demand curves, the tax did create the redistribution of income desired under equity based arguments (tax gain = tax loss). However, MSC does not equal MSB and if the anticipated tax gain was based on "Q" boats being sold, as was the case before the tax, then the government received 50% less tax than was anticipated.

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A NOTE ON THE APPENDIX TO CHAPTER 2

The appendix to Chapter 2 sets up a two-dimensional model of efficient resource. This appendix can easily be skipped because the basic notions are developed intuitively within the chapter. If, however, you have good students, you can assign the appendix and derive the conditions in class. The standard welfare model is developed in the appendix and Edgeworth-Bowley boxes are used to derive the efficiency conditions.

OUTLINE OF THE APPENDIX TO CHAPTER 2

A Model of Efficient Resource Use
- Production and Technology

Productive Efficiency
- The Production Possibility Curve

Pareto Efficiency
- Tastes and Utility
- Attainment of Efficiency
- An Interpretation of Efficiency Conditions
- Ranking Efficient Outcomes: Social Welfare Functions

Efficiency and Economic Institutions
- Pure Market Economy and Productive Efficiency
- A Pure Market Economy and Pareto Efficiency
- Income Distribution
- Alternative Economic Institutions and Efficiency

Market Imperfections

TRUE/FALSE QUESTIONS

1. The normative approach to public finance prescribes certain actions to achieve predetermined criteria. (T)

2. Positive economic analysis is based on underlying value judgments. (F)

3. "The government should abolish tariffs to achieve efficiency" is a normative statement. (T)

4. It is possible for efficiency *not* to be attained even if all production is carried on without waste. (T)

5. Efficiency is attained when resources are used each year in such a way that no further net gain is possible. (T)

6. The efficient annual output of any given good is attained if that good is made available in amounts up to the point at which the total social benefit of the good equals the total social cost. (F)

7. If the marginal social benefit of smoke detectors exceeds its marginal social cost, then additional net gains are possible from an increased annual smoke detector production. (T)

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8. Monopoly power causes losses in efficiency because the marginal social benefit of output exceeds its marginal social cost at the monopoly output. (T)

9. Government regulations that require airlines to serve routes for which the maximum price that passengers are willing to pay for a trip fall short of the minimum price that sellers are willing to accept are likely to cause losses in efficiency. (T)

10. Points lying below a utility possibility curve are efficient. (F)

11. Government programs can achieve efficiency when the gains to gainers from those policies exceed the losses to those who bear the costs. (T)

12. If the marginal social cost of beer production exceeds its marginal social benefit, then more than the efficient about of beer is being produced. (T)

13. Efficient outcomes are often viewed as inequitable. (T)

14. If it is not possible to make someone better off without harming another, then resource allocation is efficient. (T)

15. Compensation criteria are used to argue that changes in resource allocation should be made if the gains to some groups outweigh the losses to others, even though compensation for losses is not actually made. (T)

16. All points on a utility possibility curve are efficient but differ in terms of the distribution of well-being. (T)

17. A tax on a product shifts the demand curve. (F)

18. A government subsidized price for a commodity that is higher than the market driven price results in oversupply relative to the efficient allocation. (T)

19. When comparing the allocation of two goods relative to two consumers with individual utility functions, multiple points of Pareto efficiency can exist. (T)

MULTIPLE CHOICE QUESTIONS

1. Positive economics:

a. makes recommendations designed to achieve certain goals.
b. establishes cause-and-effect relationships between economic variables.
c. is based on value judgments.
d. can never be used to make predictions.

2. If the efficient output of a good is produced each week, then the:

a. marginal social benefit of the good equals its marginal social cost each week.
b. marginal social benefit of the good is at a maximum.
c. total social benefit of the good is at a maximum.
d. total social benefit of the good equals its total social cost.

3. If the marginal social benefit of a good exceeds the marginal social cost at the current monthly output, then:

a. it will be possible to make buyers of the good better off without harming sellers of the good.

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b. it will be possible to make sellers of the good better off without harming buyers of the good.
c. either (a) or (b)
d. a reduction in monthly output will be required for efficiency.

4. The marginal social cost of bread exceeds the marginal social benefit at the current weekly output. Therefore,

a. the marginal net benefit of bread is positive.
b. the output of bread is efficient.
c. a reduction in weekly output of bread is necessary to achieve efficiency.
d. an increase in weekly output of bread is necessary to achieve efficiency.

5. The total social benefit of automobiles equals the total social cost at current annual output. Then it follows that:

a. the annual output of automobiles is efficient.
b. the annual output of automobiles exceeds the efficient amount.
c. less than the efficient annual output of automobiles is produced.
d. it is not possible to make buyers of automobiles better off without harming sellers.
e. both (a) and (d)

6. Eggs are sold in a perfectly competitive market. No persons other than the buyers and sellers of eggs are affected in any way when eggs are traded in the market. Then it follows that:

a. the price of eggs equals the marginal social cost of eggs.
b. the price of eggs equals the marginal social benefit of eggs.
c. the price of eggs exceeds the marginal social benefit of eggs.
d. both (a) and (b)

7. Diamonds are sold by a monopoly firm that maximizes profits. Then it follows that:

a. the marginal social benefit of diamonds exceeds its marginal social cost.
b. the marginal social cost of diamonds exceeds its marginal social benefit.
c. the price of diamonds equals its marginal social cost.
d. the price of diamonds exceeds its marginal social benefit.
e. both (c) and (d)

8. Points on a utility possibility curve represent:

a. a given distribution of well-being between two persons.
b. an efficient allocation of resources.
c. the maximum well-being of any one person, given the resources available and the well-being of another person.
d. all of the above

9. If efficiency has been attained,

a. it will be possible to make any one person better off without harming another.
b. it will not be possible to make any one person better off without harming another.
c. perfect competition must exist.
d. the opportunity cost of any change in resource use must be zero.

10. A move from an inefficient resource allocation to an efficient one:

a. will always be unanimously approved, even if gainers do not compensate losers.

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b. will be unanimously opposed.
c. will be unanimously approved if gainers compensate losers.
d. can never result in losers.

11. Which of the following is a normative statement?
a. When interest rates rise, the quantity of loanable funds demanded for new mortgages will decline.
b. To achieve efficiency, governments should prevent monopoly in markets.
c. Unemployment increases during a recession.
d. When governments increase income tax rates, people work less.

12. Normative economics:
a. is not based on underlying value judgments.
b. makes recommendations to achieve efficient outcomes.
c. establishes cause-and-effect relationships between economic variables.
d. makes "if…then" type statements and checks them against the facts.

13. The extra benefit on one more unit of a good or service is its:
a. marginal cost.
b. marginal benefit.
c. total benefit.
d. total cost.

14. If the efficient output of computers is achieved this year, then market price of computers is equal to:
a. the marginal social benefit of computers.
b. the marginal social cost of computers.
c. the total social cost of computers.
d. the total social benefit of computers.
e. both (a) and (b)

15. Suppose the efficient output currently prevails in the market for ice cream. A tax on ice cream consumption will:
a. allow efficiency to continue to prevail in the market.
b. result in more than the efficient output in the market.
c. result in less than the efficient output in the market.
d. cause the marginal social cost of ice cream to exceed its marginal social benefit at the market equilibrium output.

16. Positive economics is:
a. an equity based approach in which income should be redistributed.
b. an objective approach without a particular goal based on underlying values.
c. a goal oriented approach based on desired policy outcomes.
d. a belief that governments can implement economic policies for the greater good of society.

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17. Normative economics is:

a. completely free of any value system.
b. completely objective.
c. based on a a conscious effort to implement a particular social goal.
d. an approach that determines the effect of particular actions without judgment of the result being good or bad.

18. An efficient level of output means:

a. the total social benefit less the total social cost is maximized.
b. the total social benefit is below the total social cost.
c. the total social cost equals the total social benefit.
d. the total social benefit less the total social cost can be improved.

19. If a government desires to increase production beyond the current competitively determined efficient level, the government should:

a. tax the good.
b. subsidize the good at a price higher than its current price.
c. set the price below its current price.
d. impose a fixed fee whenever the good is purchased.

20. Pareto efficiency between two consumers is achieved:

a. only when the individual marginal rates of substitution are equal to the marginal rate of transformation.
b. only when the individual marginal rates of substitution are less than one, but not necessarily equal.
c. only when the individual marginal rates of substitution are greater than one and equal.
d. only when the individual marginal rates of substitution are equal.

ESSAY QUESTIONS

1. The wine industry is currently composed of many firms, and wine is sold in a perfectly competitive market. The wine industry produces the efficient annual output of wine, which is 100,000 bottles per year. The market equilibrium price is $5 per bottle.

a. Draw the market demand and supply of wine and label the curves to show why the market output is the efficient output.

b. Suppose that the wine industry is consolidated into one large monopoly firm. As a result of the monopolization of the industry, the price of wine increase to $7 per bottle, and the annual quantity demanded falls to 75,000 bottles. Explain why this output is not efficient and show the loss in net benefits resulting from monopolization of the industry.

2. Explain why points on a utility possibility curve represent efficient allocations of resources. Why must the utility possibility curve be downward sloping? Draw a utility possibility curve and show how it is possible to achieve efficiency by moving from a point within the curve and the axes to a point on the curve.

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