Chapter 11

TAXES AND TAX POLICY
Microeconomics in Context (Goodwin, et al.), 5th Edition

Chapter Summary

This chapter starts out with a theory of taxes using the supply-and-demand model. Referring back to the chapter on welfare analysis (Chapter 5), it shows how economists may easily deduce the inefficiency of most taxes, based solely on economic efficiency. Moving then to discuss taxation specifically in the United States, data are presented on the structure of various federal taxes, and their impacts. International tax data are then presented to provide context to the U.S. data. The chapter concludes with a discussion of current tax policy issues.

Objectives

After reading and reviewing this chapter, you should be able to:

1. Illustrate the impacts of an excise tax on a supply-and-demand graph.
2. Illustrate the welfare impacts of an excise tax, also on a supply-and-demand graph.
3. Discuss the structure of the federal income tax in the United States.
4. Discuss the structure of social insurance taxes in the United States.
5. Briefly discuss the structure of other U.S. taxes (e.g., corporate taxes, state and local taxes).
6. Define recent trends in U.S. tax data.
7. Understand some international tax systems.
8. Explain what is meant by tax progressivity.
9. Define tax incidence analysis.
10. Discuss the relationship between taxes and economic growth.

Key Term Review

excise tax

taxable income

effective tax rate

estate taxes

value-added tax (VAT)

regressive tax

marginal propensity to consume

supply-side economics

total income

marginal tax rate

social insurance taxes

gift taxes

progressive tax

proportional tax

tax incidence analysis

Active Review Questions

Fill in the Blank

1. If a tax is placed on a good with an inelastic demand, the tax revenues will be relatively _____ (large or small) and the change in the quantity sold will be relatively _____ (large or small).

2. A tax in which the proportion of income paid in taxes tends to rise as one's income increases is known as a _____ tax.

3. Total taxes paid divided by income is known as one's _____.

4. The macroeconomic theory that low marginal tax rates lead to higher rates of economic growth is known as _____.

5. In the United States, the top 1% paid about _____ percent of their total income in taxes in 2020.

True/False

6. An excise tax can be represented on a supply-and-demand graph as an upward shift in the supply curve.

7. A government looking to generate a significant amount of tax revenue should tax goods and services with elastic demand curves.

8. An excise tax will result in a deadweight loss only if the good being taxed has a perfectly inelastic demand curve.

9. Instituting an excise tax on a product will result in a reduction of producer surplus.

10. Suppose Josh has an income of $50,000 and pays $10,000 in total taxes. Corrine has an income of $30,000 and pays $6,000 in taxes. This is an example of a progressive tax system.

11. For the U.S. federal income tax, one's effective tax rate is generally higher than their marginal tax rate.

12. The U.S. federal estate and gift taxes are considered to be complementary taxes.

13. The main reason overall taxes in the United States, as a percentage of GDP, have increased in recent decades is that federal tax rates have increased.

14. The primary reason that total tax receipts in the United States have fluctuated in recent decades is macroeconomic factors.

15. Overall tax receipts in the United States, as a percentage of GDP, are average when compared to other OECD countries.

16. Supply-side economics argues that having a lower overall tax rate than other countries is the key to economic growth.

17. The top marginal tax rate in the United States has generally declined over the last several decades.

18. In 2020, households in the bottom quintile in the United States paid an average of about 20% of their total income in taxes.

Short Answer

19. Explain the difference between a marginal tax rate and an effective tax rate.

_____
_____
_____
_____
_____

20. Briefly discuss the empirical findings regarding the current progressivity of the overall U.S. tax system.

_____
_____
_____
_____
_____

Self Test

1. How will an excise tax imposed on a good impact the market equilibrium?

    a. Price will rise, and quantity will fall
    b. Price and quantity will both rise
    c. Price will fall, and quantity will rise
    d. Price and quantity will both fall
    e. It cannot be determined without information about elasticities

2. Suppose an excise tax of $0.30 per gallon is placed on gasoline. The price of gasoline will increase by $0.30 only if ...

    a. the supply curve is perfectly inelastic.
    b. the demand curve is perfectly elastic.
    c. the demand curve is perfectly inelastic.
    d. both the supply and demand curves are perfectly elastic.
    e. the market is in a situation of shortage.

For Questions 3 – 6, refer to the graph below.
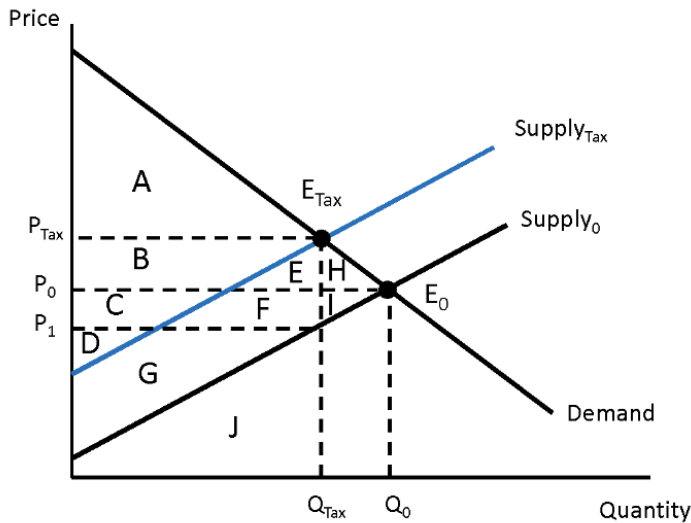
3. In the graph above, which area(s) represent the consumer surplus in the market before any excise taxes are imposed on the good?

    a. Area A
    b. Areas A + B
    c. Areas B + E + H
    d. Areas A + B + E + H
    e. Areas A + B + C + D

4. In the graph above, which area(s) represent the loss in consumer surplus as a result of imposing an excise tax on the good?

    a. Area A
    b. Areas A + B
    c. Areas B + E + H
    d. Areas A + B + E + H
    e. Areas A + B + C + D

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5. In the graph above, which areas represent the tax revenue once an excise tax is imposed on the good?

    a. Areas B + E + H
    b. Areas C + F + I
    c. Areas H + I
    d. Areas B + E + C + F
    e. Areas A + B + E + H
    f. Areas B + E + H + C + F+ I

6. In the graph above, which areas represent the deadweight loss as a result of imposing an excise tax on the good?

    a. Areas B + E + H
    b. Areas C + F + I
    c. Areas H + I
    d. Areas B + E + C + F
    e. Areas A + B + E + H
    f. Areas B + E + H + C + F+ I

7. A tax which impacts high-income taxpayers more than low-income taxpayers, expressed as a percentage of their income, is known as what kind of tax?

    a. A flat tax
    b. A regressive tax
    c. A wealth tax
    d. A proportional tax
    e. A progressive tax

8. A tax which impacts all taxpayers equally regardless of income, is known as what kind of tax?

    a. A social insurance tax
    b. A regressive tax
    c. A wealth tax
    d. A proportional tax
    e. A progressive tax

For Questions 9 and 10, consider the following marginal tax table:

Taxable Income Range	Marginal Tax Rate
$0 - $10,000	10%
$10,001 - $30,000	15%
Above $30,000	25%

9. Suppose Tahira has an income of $16,000. She is able to deduct $5,000 of her income as non-taxable. How much would she owe in taxes based on the table above?

   a. $0
   b. $1,100
   c. $1,150
   d. $1,500
   e. $1,650

10. Suppose Michal has an income of $50,000. She has is able to deduct $10,000 of her income as non-taxable, and she also contributes $2,000 to a non-taxable IRA. How much would she owe in taxes based on the table above?

    a. $4,200
    b. $6,000
    c. $8,500
    d. $12,500
    e. $14,000

11. How would we expect one's effective tax rate to compare with their top marginal tax rate for the U.S. federal income tax?

    a. As long as one pays federal income taxes, their top marginal tax rate should always be higher.
    b. One's top marginal tax rate should be higher, but only if the taxpayer has income above the bottom marginal rate.
    c. One's top marginal tax rate should be higher, but only if one can claim extra tax deductions.
    d. One's top marginal tax rate should be higher, but only if they are taxed at more than one marginal rate.
    e. One's top marginal tax rate should be higher, but only if one's taxable income is higher than their total income.

12. Federal social insurance taxes in the United States are best described as …

    a. A progressive tax at lower income levels, and then a proportional tax at higher income levels.
    b. A proportional tax at lower income levels, and then a regressive tax at higher income levels.
    c. A proportional tax at lower income levels, and then a progressive tax at higher income levels.
    d. A regressive tax at lower income levels, and then a proportional tax at higher income levels.
    e. A progressive tax at lower income levels, and then a regressive tax at higher income levels.

13. Which one of the following statements is false?

    a. Federal tax receipts in the United States, expressed as a percentage of GDP, reached a historical high in 2020.
    b. U.S. federal tax receipts tend to fluctuate more over time than do state and local tax receipts.
    c. The overall tax rate in the U.S., expressed as a percentage of GDP, is lower than in most other OECD countries.
    d. The majority of U.S. states levy a state income tax.
    e. The majority of U.S. states levy a state sales tax.

14. What is the primary reason overall U.S. tax receipts vary over time?

    a. Changes in federal tax laws
    b. Changes in state tax laws
    c. Changes in local tax laws
    d. Macroeconomic fluctuations
    e. Changes in consumer preferences

15. Which of the following countries has the lowest overall tax rate, expressed as a percentage of GDP?

    a. Sweden
    b. United States
    c. France
    d. United Kingdom
    e. Germany

16. What is the main principle of supply-side economics?

    a. That the majority of economic benefits will accrue to lower-income households
    b. That low top marginal tax rates will spur economic growth
    c. That government subsidies should be targeted at high-growth industries
    d. That a flat tax will produce the highest economic growth rates
    e. That reduction of regulations on raw material extraction will spur economic growth

17. What was the top marginal federal income tax rate in 2020 in the United States?

    a. 50%
    b. 37%
    c. 30%
    d. 22%
    e. 14%

18. Which one of the following is not a generally-accepted conclusion from tax incidence analysis?

    a. Property taxes on landlords are generally passed on to renters.
    b. Social insurance taxes are borne almost entirely by workers.
    c. Excise taxes are mostly paid by consumers.
    d. Sales taxes are split about equally between consumers and producers.
    e. The burden of corporate taxes falls primarily on the owners of capital investments.

19. About what percentage of total income do U.S. households in the bottom quintile pay in taxes?

    a. 3%
    b. 10%
    c. 20%
    d. 27%
    e. 33%

20. About what percentage of total income do U.S. households in the top 1% pay in taxes?

    a. 3%
    b. 10%
    c. 19%
    d. 27%
    e. 34%

Answers to Active Review Questions

1. large, small
2. regressive
3. effective tax rate
4. supply-side economics
5. 34
6. true
7. false
8. false
9. true
10. false
11. false
12. true
13. false
14. true
15. false
16. false
17. false
18. true
19. A marginal tax rate only applies on one's additional income above a certain amount. An effective tax rate is obtained by dividing one's total taxes paid by total income, expressed as a percentage. One's effective tax rate tends to be much less than one's top marginal tax rate.
20. The overall U.S. tax system is progressive, but rather modestly. For example, households in the bottom income quintile paid an average of 20% of their total income in taxes in 2020. Households in the middle income quintile paid 26% of their income in taxes. Households in the top 1% paid an average of 34% of their income in taxes.

Answers to Self Test Questions

1. a
2. c
3. d
4. c
5. e
6. c
7. e
8. d
9. c
10. b
11. a
12. b
13. a
14. d
15. b
16. b
17. b
18. d
19. c
20. e