Chapter 5

WELFARE ANALYSIS

Microeconomics in Context (Goodwin, et al.), 3rd Edition

Chapter Overview

This chapter presents welfare analysis, including the topics of consumer and producer surplus. This chapter also includes a close examination of different ways of understanding efficiency. Consideration of what is efficient—and for whom—is followed by a first look at policy conclusions that have been drawn from this approach and at the requirements for "perfect markets" that underlie traditional welfare analysis.

Objectives

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

1. Understand how economists define and quantify social welfare.
2. Define consumer surplus, and be able to understand it in relation to a demand curve.
3. Define producer surplus, and be able to understand it in relation to a supply curve.
4. Explain why a market at equilibrium maximizes the net social welfare to market participants.
5. Discuss why a price floor or a price ceiling creates a deadweight loss.
6. Discuss the policy implications of welfare analysis, including the basis for lasissez-faire economics and the problem of market failure.

Key Term Review

welfare economics
third-party effects
consumer surplus
marginal benefit (for consumers)
net benefits
market consumer surplus
marginal cost
social efficiency (in welfare economics)
deadweight loss
laissez-faire
social welfare
maximum willingness to pay (WTP)
marginal change
marginal benefits curve
market (or aggregate) benefits
producer surplus
market producer surplus
price ceiling
price floor
market failure

Active Review Questions

Fill in the blank

1. The difference between a consumer's maximum willingness to pay for something and price is known as ____________________________.

2. Another name for a demand curve is ____________________________________.

3. Producer surplus is essentially the same thing as _______________________.

4. The area above the supply curve but below price is known as _____________________________________.

5. An allocation of resources that maximizes the net benefits to society is known as ______________________________.

6. A minimum price set above the market equilibrium price is known as _______________________________.

7. A reduction in net benefits as a result of a market intervention is known as _________________________________.

8. A minimum wage law is an example of _________________________________.

9. The perspective that government regulation in markets should be kept to a minimum is known as ____.

10. Situations in which unregulated markets fail to maximize social welfare are known as _____________________________________.

True or False

11. Suppose Solange is willing to pay $50 for a particular pair of shoes. The price of the shoes is $30. She would obtain a consumer surplus of $20 if she purchases the shoes.

12. Consumer surplus is the area above a demand curve but below price.

13. Another name for a demand curve is a marginal cost curve.

14. The producer surplus for a particular unit is equal to the vertical distance between price and the supply curve.

15. Social efficiency is an allocation of resources in which consumer and producer surplus are equal.

16. Under certain assumptions, the market equilibrium is socially efficient.

17. Rent control is an example of a price ceiling.

18. A deadweight loss results when resources are allocated in an unequal manner.

19. Laissez-faire economics means that resources should be allocated in an equal manner.

20. Market failure occurs when unregulated markets fail to maximize net social benefits.

Short Answer

21. What area in a market graph is equal to market consumer surplus?

____

____

22. What is social efficiency?

____

____

23. What is a deadweight loss?

____

____

24. What is a price ceiling?

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____

Problems

1. In Figure 5.11 the price floor appears to increase producer surplus. Draw a graph illustrating a price floor that clearly decreases producer surplus. Be sure to indicate which areas represent producer surplus before and after the price floor.

2. Illustrate in a graph how a price ceiling creates a deadweight loss.

Self Test

1. Social welfare is defined as …

   a. the aggregate well-being of society.
   b. consumer surplus minus producer surplus.
   c. producer surplus minus consumer surplus.
   d. total net benefits.
   e. total benefits minus deadweight loss.

2. The difference between maximum willingness to pay and price is known as …

   a. producer surplus.
   b. total benefits.
   c. consumer surplus.
   d. deadweight loss.
   e. market failure.

3. Consumer surplus for a particular unit sold is equal to …

   a. the vertical distance between price and the demand curve.
   b. the vertical distance between the demand curve and the supply curve.
   c. the vertical distance between price and the supply curve.
   d. the vertical distance between the demand curve and the x-axis.
   e. the vertical distance between the supply curve and the x-axis.

4. What is another name for a demand curve?

    a. A marginal benefits curve
    b. A total benefits curve
    c. A marginal cost curve
    d. An aggregate benefits curve
    e. A total cost curve

5. Market producer surplus is equal to what area?

    a. The area below the demand curve but above price
    b. The area between the demand and supply curves
    c. The area below the demand curve but above the x-axis
    d. The area above the supply curve but below price
    e. The area below the supply curve but above the x-axis

6. Market net benefits are equal to what area?

    a. The area below the demand curve but above price
    b. The area between the demand and supply curves
    c. The area below the demand curve but above the x-axis
    d. The area above the supply curve but below price
    e. The area below the supply curve but above the x-axis

7. What is another name for profits?

    a. Deadweight loss
    b. Market failure
    c. Consumer surplus
    d. Producer surplus
    e. Aggregate benefits

8. Social efficiency is defined as an allocation of resources that …

    a. maximizes consumer surplus.
    b. maximizes producer surplus.
    c. maximizes social well-being.
    d. maximizes social welfare.
    e. maximizes market failure.

9. A price ceiling is defined as …

    a. a price set to maximize producer surplus.
    b. a price set to maximize consumer surplus.
    c. a regulation that specifies a maximum price.
    d. a regulation that specifies a minimum price.
    e. a regulation that sets the quantity sold.

10. A price floor will …

    a. clearly increase both consumer and producer surplus.
    b. clearly decrease both consumer and producer surplus.
    c. clearly increase consumer surplus but have an ambiguous effect on producer surplus.
    d. clearly decrease consumer surplus but have an ambiguous effect on producer surplus.
    e. clearly increase producer surplus but have an ambiguous effect on consumer surplus.

11. Laissez-faire economics states that …

    a. government regulation should be kept to a minimum.
    b. government regulation should promote equity.
    c. government regulation can eliminate market failure.
    d. government regulation should be limited to taxation.
    e. government regulation can maximize social welfare.

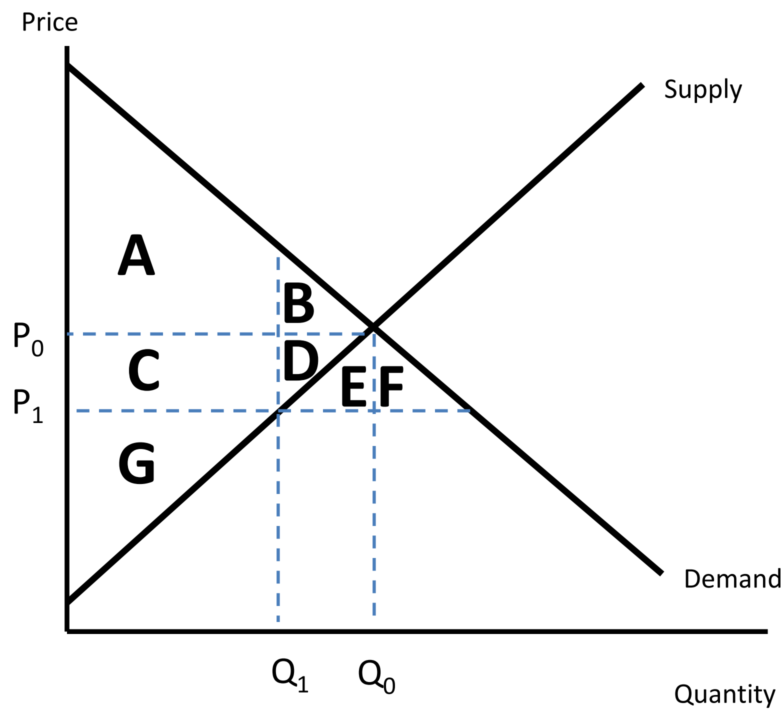
12. A deadweight loss is defined as …

    a. a reduction in social welfare due to equity considerations.
    b. a reduction in social well-being due to equity considerations.
    c. a reduction in social welfare due to laissez-faire policies.
    d. a reduction in social welfare due to market failure.
    e. a reduction in social welfare due to market interventions.

13. The policy implication of market failure is that …

    a. government intervention is not warranted.
    b. government intervention should be undertaken to increase equity.
    c. government intervention may be necessary to increase well-being.
    d. government intervention is warranted only to protect property rights.
    e. government intervention may be necessary to increase social welfare.

For Questions 14-17, refer to the graph below.



14. In the graph above, setting a maximum price of P_1 is an example of …

 a. laissez-faire economics.
 b. a price floor.
 c. a price ceiling.
 d. a market failure.
 e. an inequitable policy.

15. In the graph above, if the maximum price is set at P_1, what area(s) represent consumer surplus after the implementation of this policy?

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

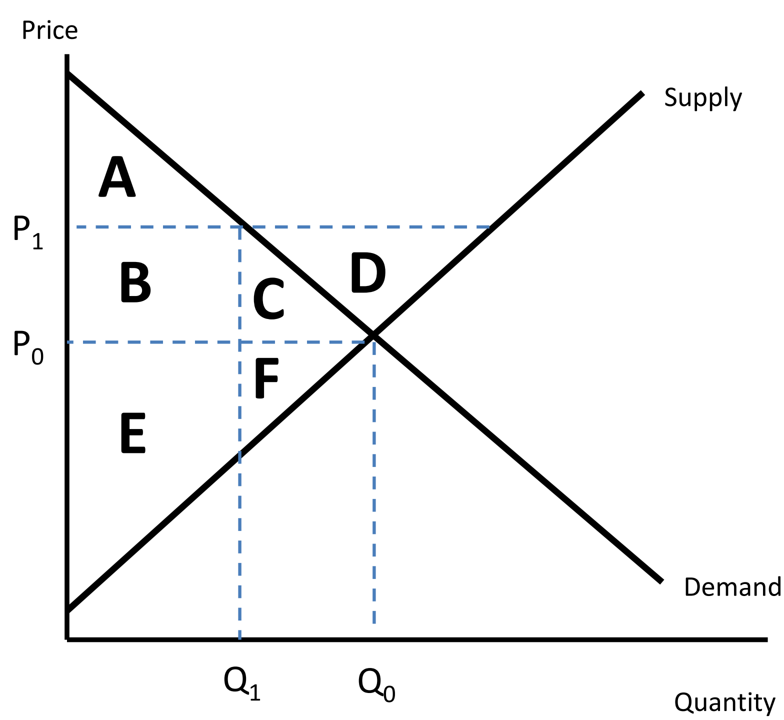
16. In the graph above, if the maximum price is set at P_1, what area(s) represent the deadweight loss as a result of this policy?

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

17. In the graph above, if the maximum price is set at P_1, what area(s) represent the producer surplus after the implementation of this policy?

    a. Areas C+D+G
    b. Area G
    c. Areas G+D
    d. Area C
    e. Area D

For Questions 18-20, refer to the graph below.



18. In the graph above, if the minimum price is set at P_1, what area(s) represent the producer surplus after the implementation of this policy?

    a. Areas B+C+E+F
    b. Areas B+E
    c. Areas E+F
    d. Area E
    e. Area B

19. In the graph above, if the minimum price is set at P_1, what will limit the quantity of the good that is sold?

    a. Demand
    b. Supply
    c. A government quota
    d. Consumer surplus
    e. Producer surplus

20. In the graph above, if the minimum price is set at P_1, what area(s) represent the consumer surplus after the implementation of this policy?

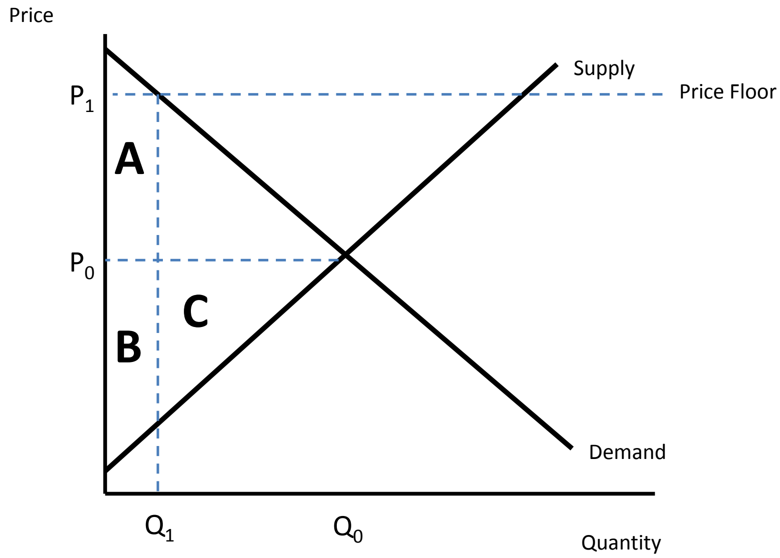
    a. Area A
    b. Areas A+B
    c. Areas A+C
    d. Areas A+B+C
    e. Area B

Answers to Active Review Questions

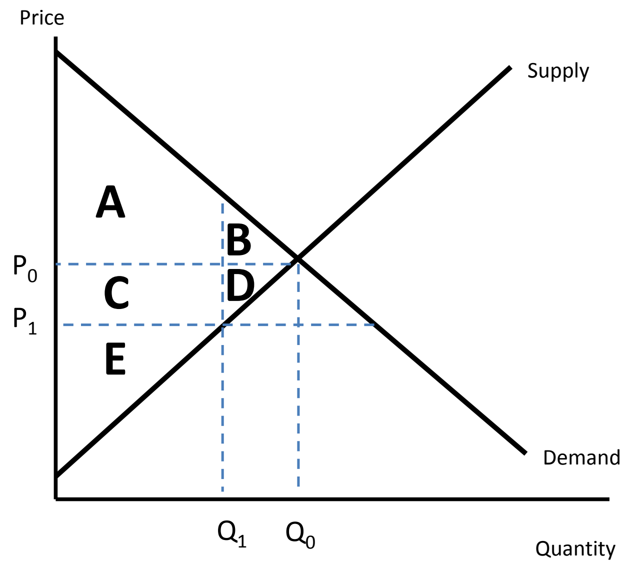
1. consumer surplus
2. a marginal benefits curve
3. profits
4. producer surplus
5. social efficiency
6. a price floor
7. a deadweight loss
8. a price floor
9. laissez-faire economics
10. market failure
11. True
12. False. Consumer surplus is the area below a demand curve but above price.
13. False. Another name for a demand curve is a marginal benefit curve.
14. True
15. False. Social efficiency is an allocation of resources that maximizes net benefits.
16. True
17. True
18. False. A deadweight loss is created when a market intervention reduces net benefits.
19. False. Laissez-faire economics means that government intervention in markets should be kept to a minimum.
20. True
21. The area above price but below the demand curve.
22. Social efficiency is the maximization of net social benefits.
23. A deadweight loss is a reduction is net social benefits as a result of a market intervention, such as a price floor or a price ceiling.
24. A price ceiling is a maximum price set below the market equilibrium.

Answers to Problems

1. If a price floor is set very high, it will clearly decrease producer surplus. This is illustrated in the graph. Before the price floor, producer surplus is areas (B+C). After the price floor, producer surplus is areas (A+B). Area A is clearly smaller than area C. Thus producer surplus has decreased.



2. The initial price in the graph below is P_0. Consumer surplus is areas (A+B). Producer surplus is areas (C+D+E). So total market benefits are (A+B+C+D+E). The price ceiling is set at P_1. Consumer surplus is now areas (A+C). Producer surplus is now area E. Total market benefits are now (A+C+E). Thus the reduction in social welfare is equal to areas (B+D), which is the deadweight loss.



Answers to Self Test Questions

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