

CHAPTER 11

MARKETS WITHOUT POWER

Microeconomics in Context (Goodwin, et al.), 2nd Edition

Chapter Summary

This chapter presents the traditional, idealized model of perfect competition. In it, you will learn that profit-maximizing perfectly competitive firms (perhaps surprisingly) make zero economic profit. You will learn more about the concept of efficiency; and the concepts of consumer and producer surplus and deadweight loss will be introduced and used for policy analysis.

Objectives

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

1. Describe the three different views of market power.
2. List the assumptions behind the traditional model of perfectly competitive markets.
3. Describe how the situation facing the individual firm relates to the overall market situation, in perfect competition.
4. Describe the difference between economic profits and normal profits.
5. Indicate how firms maximize profits under perfect competition.
6. Explain how, under certain conditions, a perfectly competitive market is economically efficient.
7. Apply the concepts of consumer surplus, producer surplus, and deadweight loss to policy analysis.

Key Terms

market power
zero economic profit
allocative efficiency
producer surplus

competitive equilibrium
positive economic profit
consumer surplus
deadweight loss

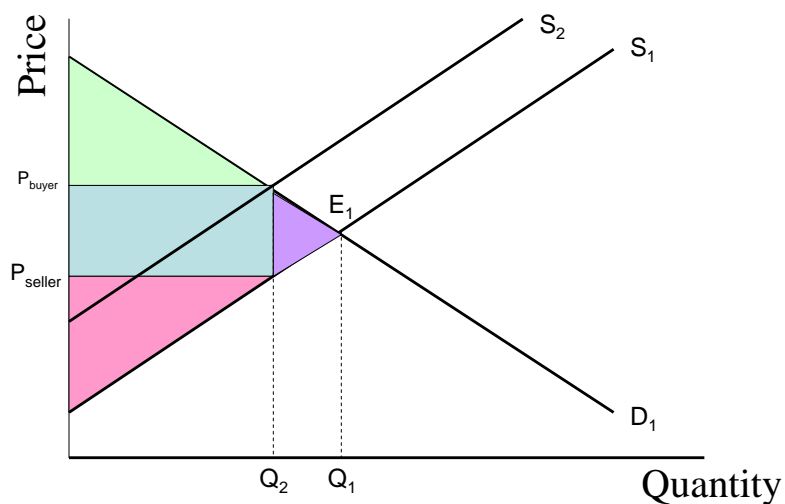
Active Review Questions

Fill in the Blank

1. The ability to affect the terms and conditions of the exchanges in which you participate is referred to as _____.
2. In the perfect competition model, buyers and sellers have _____ information.

3. Under conditions of perfect competition, a profit-maximizing firm will choose a level of production such that marginal cost is equal to _____.
4. The supply curve of a perfectly competitive firm is a portion of its _____ curve, while the demand curve it faces is perfectly (elastic/inelastic) _____.
5. At competitive equilibrium, all firms make (positive/zero/negative) _____ economic profit.
6. In a perfectly competitive market, the entrance of new firms into the market will drive prices (up, down) _____.
7. Perfectly competitive firms operate at production levels characterized by (decreasing/constant/increasing) _____ returns to scale.
8. There are (many/few) _____ real world examples of perfectly competitive markets.
9. The traditional neoclassical view generally considers market power to be (good/bad) _____ and competition to be (good/bad) _____.

Questions #10 and #11 refer to the following graph and scenario.



10. The graph above depicts the effects of a tax. The shaded rectangle shows the magnitude of _____.
11. The shaded triangle *above* the rectangle shows the magnitude of _____ surplus.

True or False

- 12. Deadweight loss occurs when the supply curve shifts inward due to a change in input prices.
- 13. Taxes create deadweight loss for consumers only.
- 14. The existence of deadweight loss means that taxation is always harmful to the economy.
- 15. Under conditions of perfect competition, all firms make positive economic profits.
- 16. Consumer surplus refers to the additional consumers who cannot obtain the goods they wish to purchase.
- 17. Producer surplus refers to the difference between the price a producer receives, and the lowest price at which the producer would have been willing to sell a good.
- 18. Under perfect competition, individual economic actors have no market power.
- 19. If a perfectly competitive firm wants to sell a larger quantity of goods, it must lower its selling price.

Short Answer

- 20. The model of perfect competition starts with the assumptions of the traditional neoclassical model and then adds some further assumptions. List the four main additional assumptions of the model of perfect competition.

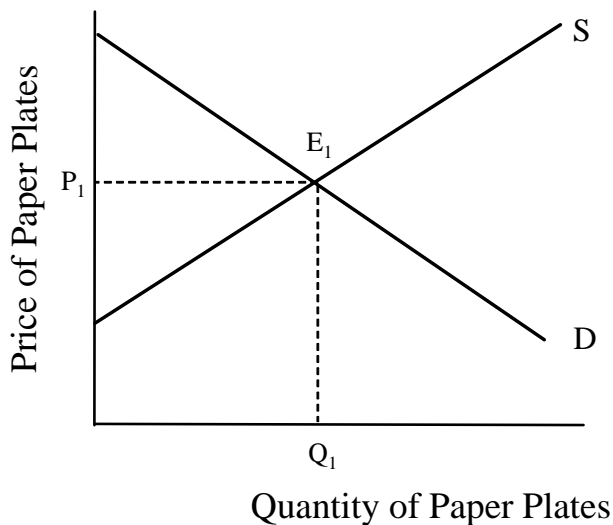
- 21. Explain why taxation can increase total well-being despite the existence of deadweight loss.

22. Explain why it may not be a good idea to tax a good or service that is characterized by high price elasticity of demand.

23. In a market with perfectly inelastic supply, what is the effect of a price ceiling?

Problems

1. Suppose that the market for paper plates is perfectly competitive. The graph below shows hypothetical supply and demand curves for the paper plates market.

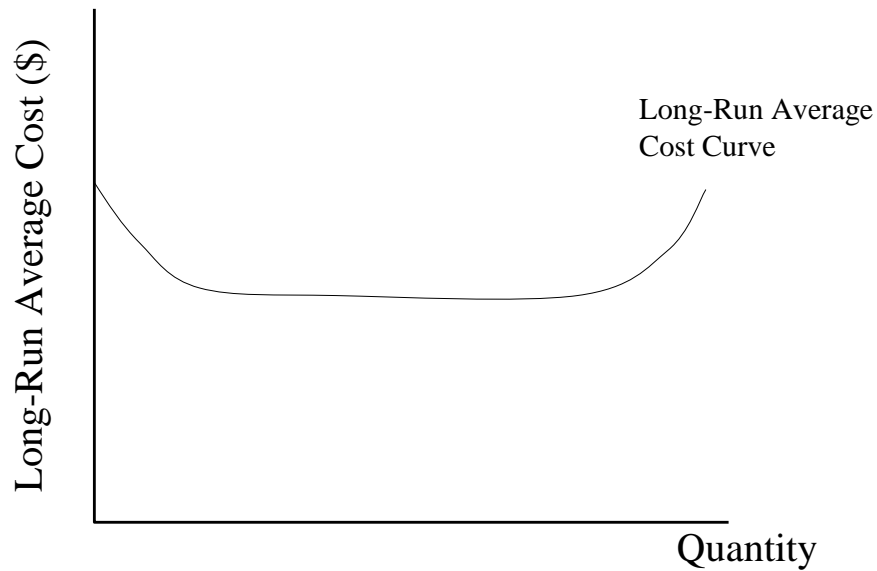


- a. Indicate the areas of consumer surplus and producer surplus in the graph shown above.

- b. Suppose that several new firms enter the paper plates market. Sketch the effect of this development on the competitive equilibrium price and quantity.

- c. Sketch the effect of this price change on a supply and demand graph for an *individual* firm participating in this market.

2. The following graph represents the long-run average cost curve for the market in paper plates:



- a. On the graph, label the region characterized by economies of scale and the region characterized by diseconomies of scale.
- b. Assuming conditions of perfect competition, indicate on the graph the region in which firms will operate in the long run.

3. Suppose that the government institutes a sales tax on purchases of paper plates. Graph the effects of this tax.

4. Sometimes countries will put price ceilings on basic foodstuffs, in an effort to assure that its poorest citizens will be able to afford to eat. Suppose a country puts a price ceiling on the price of rice (and that the ceiling is set below the equilibrium market price).

a. In the very short run, suppose that the supply of rice is perfectly inelastic, since it depends only on the size of a national rice harvest that has already taken place. Assuming that demand is moderately elastic, illustrate graphically the effects on consumer and producer surplus.

b. Over a longer span of time, rice farmers will be able to adjust the amount of rice that they grow. Illustrate graphically the effect on consumer and producer surplus when the supply and demand for rice are both moderately elastic.

c. Supposing that the majority of rice eaters are workers who live in cities, while rice is grown by many small farmers living in the countryside. Describe the likely effects of this policy on urban and rural well-being, and on well-being overall.

Self Test

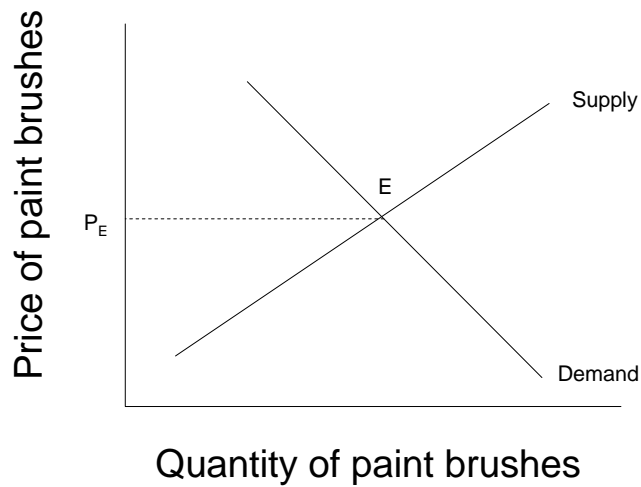
1. In the market structure known as perfect competition, which of the following statements is assumed to be true all the time?
 - a. All economic actors have market power.
 - b. Big business has significant influence on public policy.
 - c. Competition is considered a harmful force.
 - d. Economic actors are concerned citizens.
 - e. Individual economic actors have no market power.

2. Which of the following is *not* a condition of the model of perfect competition?
 - a. Each individual buyer can affect the market price.
 - b. Within a given market, only one kind of good or service is traded.
 - c. Producers can freely enter the industry.
 - d. Producers can freely exit the industry.
 - e. Sellers all have perfect information.

3. Which of the following is assumed to be true within the model of perfect competition?
 - a. Exchange is envisioned as occurring in a large double-auction spot market.
 - b. Exchange is envisioned as occurring within an open auction.
 - c. Individual sellers can raise their prices without losing all their customers.
 - d. Transaction costs act as an important obstacle to full information sharing.
 - e. None of the above.

4. The individual price-taking firm faces
 - a. A perfectly inelastic demand curve.
 - b. A horizontal demand curve.
 - c. A perfectly elastic demand curve.
 - d. A vertical demand curve.
 - e. Both b and c are true.

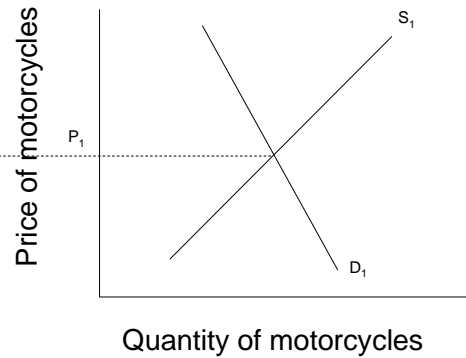
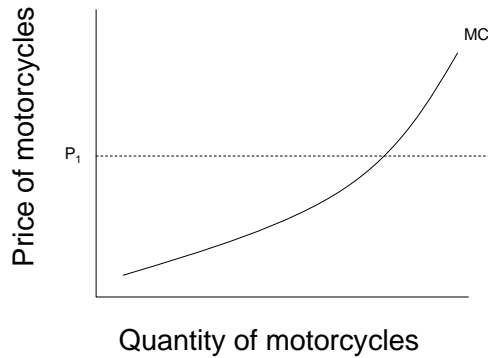
Question #5 refers to the graph shown below.



5. Assume the market for paint brushes is perfectly competitive. At point E in the graph shown above,
 - a. Firms are making positive economic profit.
 - b. Firms are making above-normal profit.
 - c. Marginal cost is equal to price p_E .
 - d. All buyers have market power.
 - e. Both a and c are true.

6. Over the long run, which of the following statements is true about profit-maximizing firms in a perfectly competitive market?
 - a. Economic profits are zero.
 - b. Economic profits are negative.
 - c. Economic profits are positive.
 - d. Accounting profits are zero.
 - e. Both c and d are true.

Questions #7 to #9 refer to the following graphs:



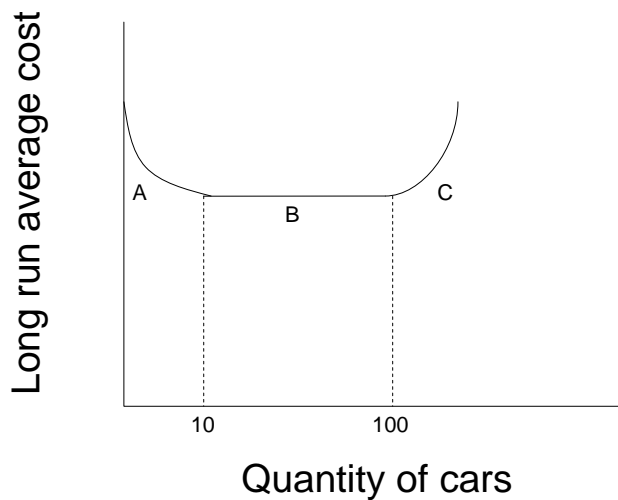
7. Suppose that at price p_1 , motorcycle manufacturers are making positive economic profits. Assuming the market in motorcycles is perfectly competitive, which of the following will occur in the long run?
- The supply curve will shift to the right.
 - The demand curve will shift to the right.
 - Price will rise.
 - Price will remain constant.
 - Marginal costs will increase.
8. Suppose now that motorcycle producers are making economic losses. Which of the following will happen in the long run?
- Competitive pressures will drive economic profits toward zero.
 - Some firms will exit the market.
 - The supply curve will shift to the right.
 - Both a and b are true.
 - Both b and c are true.
9. Suppose that competitive pressures drive the price of motorcycles downward. Which of the following statements is an accurate description of the situation that results?
- Revenues and profits are reduced.
 - Revenues fall, while profits remain constant.
 - The supply curve shifts to the left.
 - Marginal cost rises.
 - The demand curve shifts to the right.
10. Under certain assumptions perfectly competitive markets are efficient and lead to the best possible social outcomes. Which of the following is *not* one of these assumptions?
- Production generates positive externalities.

- b. Consumption does not generate any externalities.
- c. There are no public goods.
- d. All costs and benefits can be captured in a static model.
- e. Society is not concerned about distribution.

11. When resources are allocated to various production processes based on the exact marginal value to buyers of the goods and services produced, the result is known as

- a. Allocative equilibrium.
- b. Normal profit allocation.
- c. Consumer surplus.
- d. Competitive efficiency.
- e. Allocative efficiency.

Question #12 refers to the following graph:



12. Which of the following statements is true about production of cars, based on the graph shown above?

- a. Region A is characterized by diseconomies of scale.
- b. Region B is characterized by economies of scale.
- c. When 50 cars are being produced, increasing production to 51 cars will bring diseconomies of scale into play.
- d. When 90 cars are being produced, competitive firms are producing at low unit costs.
- e. All of the above are true.

13. Consumer surplus refers to

- a. The area below the demand curve and above the supply curve.
- b. The area between the supply curve and the equilibrium price.
- c. The area between the demand curve and the equilibrium price, to the left of the equilibrium point.
- d. The excess of the amounts sellers actually receive, beyond the amount that would make them just willing to supply the good or service.
- e. The excess number of consumers who want to buy a product and cannot do so.

14. Deadweight loss refers to

- a. An increase in consumer surplus.
- b. An inefficiency that arises when people are prevented from making certain mutually beneficial trades.
- c. The difference between consumer and producer surplus.
- d. The sum of consumer and producer surplus.
- e. The excess of the amounts that buyers would be willing to pay, over the amount they actually pay.

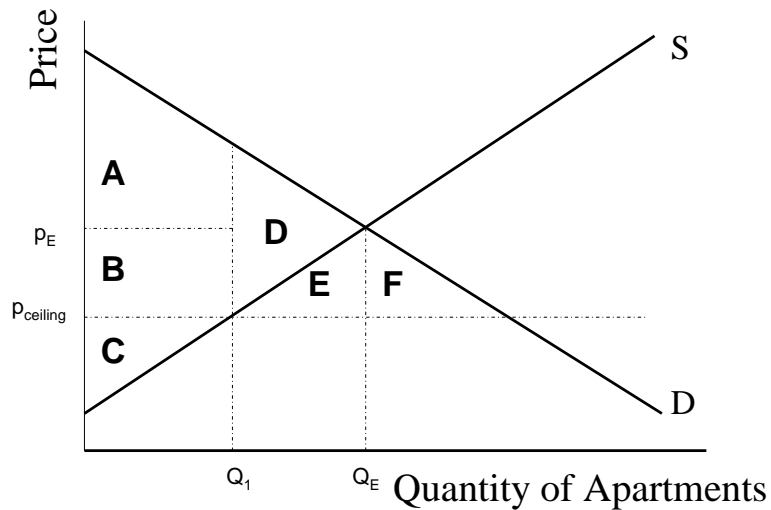
15. Suppose the market for cigarettes is at competitive equilibrium. The government decides to impose a tax on cigarettes. Which of the following does *not* occur?

- a. Deadweight loss is created.
- b. The price faced by buyers is greater than the price received by sellers.
- c. Tax revenue is equal to quantity sold multiplied by the difference between p_{buyer} and p_{seller} .
- d. Consumer and producer surplus are both reduced.
- e. The demand curve shifts to the left.

16. When demand for a good is very price elastic, which of the following statements is false?

- a. Addition of a tax will cause buyers to reduce their purchases significantly.
- b. Addition of a tax will raise relatively little revenue compared with a tax on a less elastically demanded good.
- c. Addition of a tax will generally cause more efficiency loss than addition of a tax on a less elastically demanded good.
- d. Addition of a tax will cause producer surplus to increase.
- e. All of the above are true.

Questions #17 and #18 refer to the following graph, which shows a housing market in which a price ceiling has been imposed on rentals:



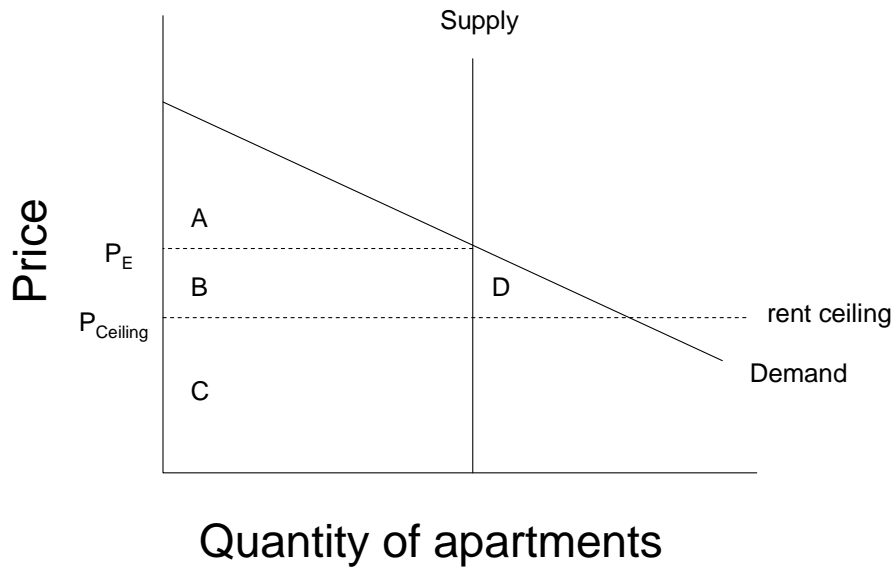
17. Producer surplus is represented by area(s)

- a. A
- b. A and B
- c. B
- d. C
- e. E and F

18. Area B represents

- a. Consumer surplus.
- b. Tax revenue.
- c. Producer surplus.
- d. A transfer from building owners to renters.
- e. The number of apartments supplied at p_{ceiling} .

Questions #19 and #20 refer to the following graph:



19. The graph shown above represents, once again, a housing market in which a price ceiling has been established for rents. Which of the following statements is true regarding the market as it is depicted in this graph?

- a. Supply of apartments is perfectly elastic.
- b. Demand for apartments is perfectly inelastic.
- c. Decreasing prices below p_{ceiling} will lead building owners to withdraw apartments from the rental market.
- d. The stock of apartments for rent is variable.
- e. Increasing rents above p_{ceiling} would not increase the number of apartments available for rent.

20. Deadweight loss resulting from the rent ceiling is represented as

- a. Area A.
- b. Area B.
- c. Area C.
- d. Area D.
- e. There is no deadweight loss.

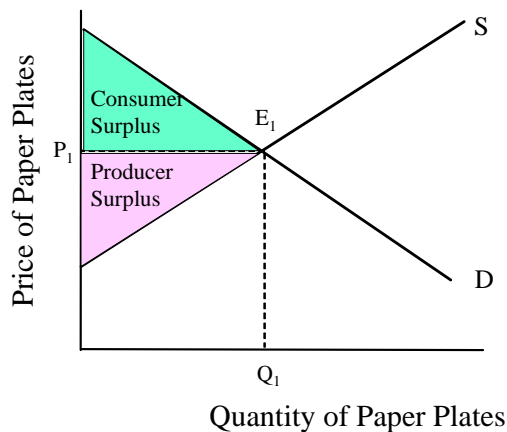
Answers to Active Review Questions

1. market power
2. perfect
3. price
4. marginal cost; elastic
5. zero

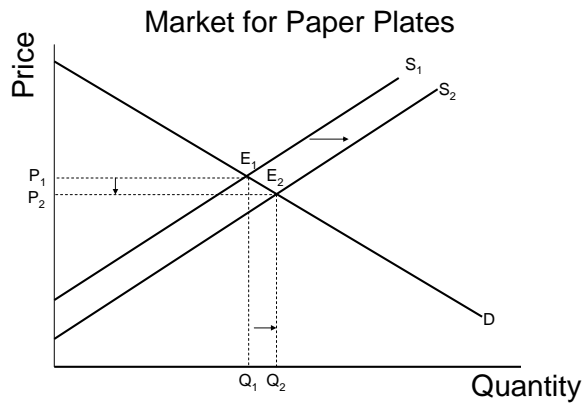
6. down
7. average
8. upward
9. bad; good
10. tax revenue
11. consumer
12. False.
13. False.
14. False.
15. False.
16. False.
17. True.
18. True.
19. False.
20. 1. There are numerous small sellers and buyers, so small that no individual seller or buyer can affect the market price. 2. Within any particular market, only one kind of good or service is traded, and all units are identical. 3. Producers can freely enter or exit the industry. 4. Buyers and sellers all have perfect information.
21. The deadweight loss shows a loss of consumer and/or producer surplus in *one* market (e.g. the market for cars, or the market for apples). However, the money collected through the tax may then be spent in other markets (e.g. the market for roads or for fire department services) on goods or services that the producers and consumers value just as much or more. Thus, the value of the surplus lost will return to producers and consumers – potentially with even more benefits – via the goods and services purchased with the tax funds.
22. When demand for a good or service is very price-elastic, addition of a tax will cause buyers to reduce their purchases significantly. As a result, revenues will be relatively small (fewer people buying the good means fewer people paying the tax), and deadweight loss will be relatively large.
23. Under these conditions, a price ceiling will have purely distributional effects (a transfer from buyers to sellers), and there will be no deadweight loss.

Answers to Problems

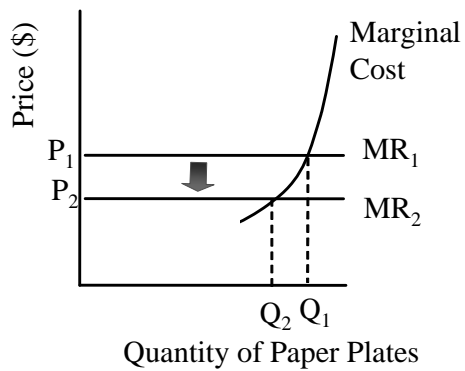
1. a.



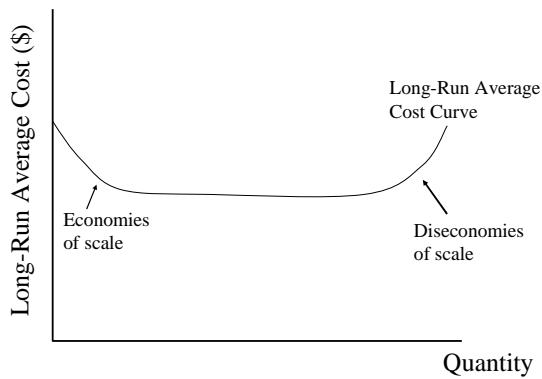
1. b.



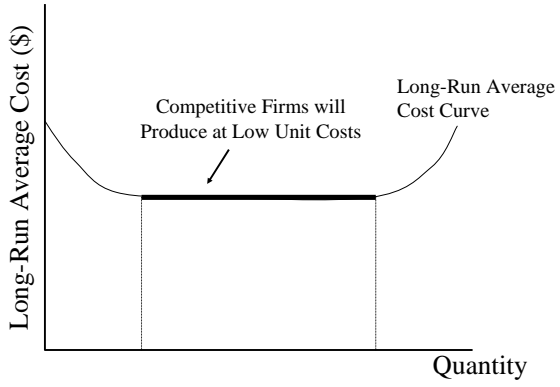
1. c.



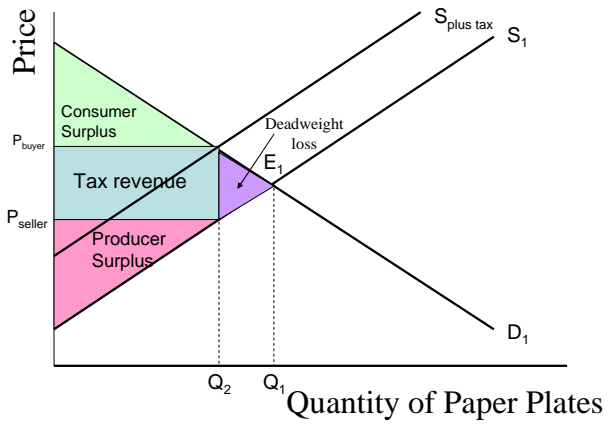
2. a.



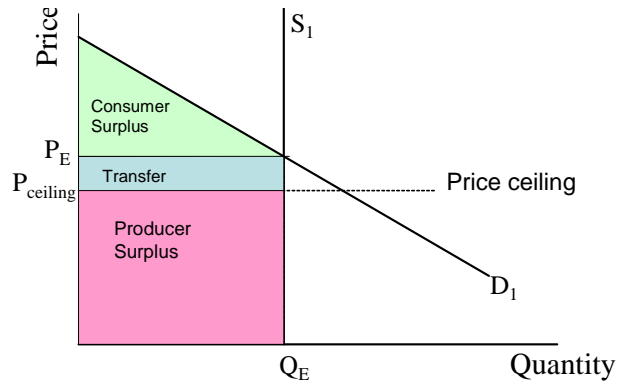
2. b. Under conditions of perfect competition, in the long run, firms will produce in the region marked in bold in the graph below.

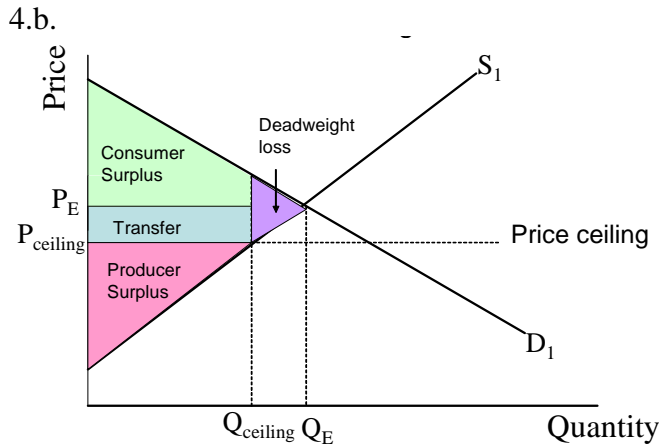


3.



4. a.





4.c. Urban consumers receive a transfer from the producers, so that rural producers are worse off. In the case of inelastic supply, urban consumers get to consume the same amount of rice but pay less for it, so they are clearly better off with the price ceiling. In the case of moderately elastic supply, there is still a transfer from producers to consumers, but there is a loss to society overall because rice production is cut back.

Answers to Self Test Questions

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