

DISCUSSION QUESTION

Name:

Instructor:

Course:

Between 2002 and 2007, the number of active real estate agents practicing in California increased approximately 90%, from 139,000 to 262,000. By 2014, the number of active agents declined by more than a third, to 171,000. *Source: California's Bureau of Real Estate Agents.*

- a) Why have there been such dramatic changes in the number of real estate agents in California since 2002?

- b) What do individuals consider when deciding whether to enter or exit the real estate industry?

- c) Analyze the real estate agent market in terms of the market structure characteristics. Given these characteristics, what do you think is true regarding the 'economic profit' (their expected income minus their implicit cost) of a typical real estate agent in the long run?

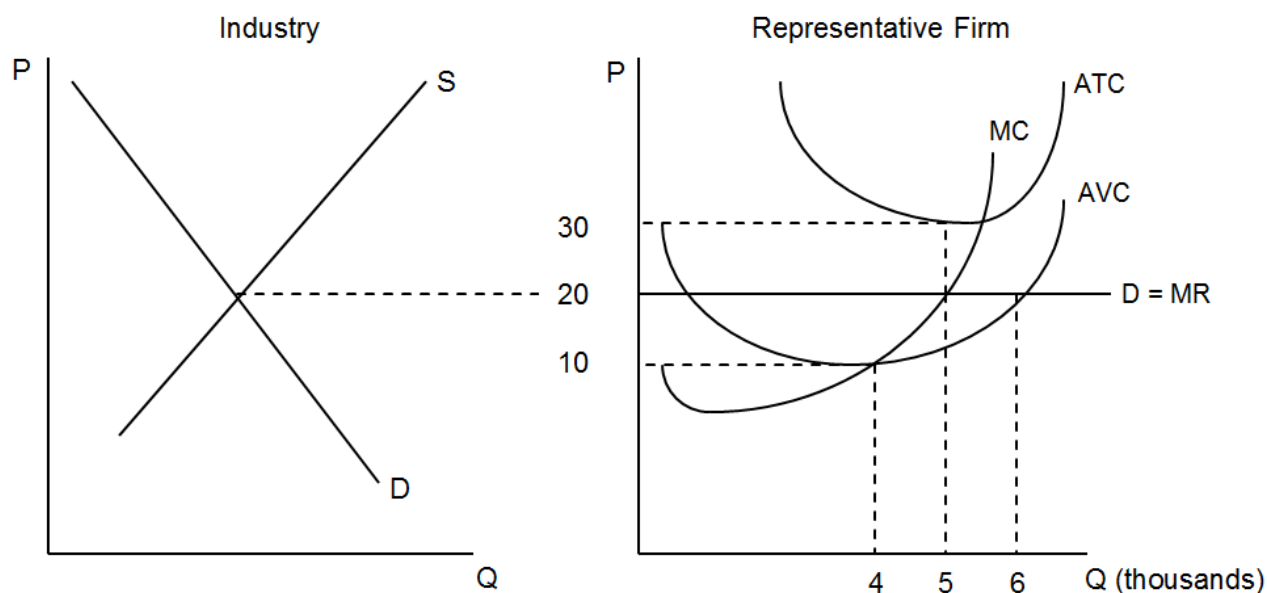
PEER GROUP PROBLEM SOLVING

Name:

Instructor:

Course:

Use the following graphs, representing a perfectly competitive industry and firm, to answer the following questions:



- How much will this firm produce?
- What do this firm's economic profits currently equal?
- The cost curves in this graph show economic costs (including both implicit and explicit costs). Suppose this firm has an accounting profit equal to \$30,000. What do their implicit costs equal?
- Will this firm shut down in the short run? Will this firm shut down in the long run? Explain.
- What can we expect to happen to the industry supply or demand in the long run? How will this affect the equilibrium price?
- Suppose this is a constant cost industry. Approximately what can we expect the long run equilibrium price will equal in this industry?

IN-CLASS EXPERIMENT / ACTIVE EXERCISE

Have students form groups of 3 or 4 and consider the following questions.

You own two different plots of land, and you have to decide how many bushels of corn and soybeans to grow. You'll base your decision on the market price of corn and soybeans, as well as the marginal costs of growing on each farm, which varies depending on the arability of the land.

Because harvesting requires different inputs, you can only grow one type of food in each area. Because you would pay the same amount for the land and farm equipment regardless of which crop you grow, the fixed costs are the same across industries. For simplicity, assume the fixed costs equal zero.

In plot 1, the marginal costs are given by:

Corn: $MC = 3 + 0.2Q$

Soybeans: $MC = 2 + 0.3Q$

Variable costs are given by:

Corn: $VC = 3Q + 0.1Q^2$

Soybeans: $VC = 2Q + 0.15Q^2$

In plot 2, the marginal costs are given by:

Corn: $MC = 2 + 0.2Q$

Soybeans: $MC = 5 + 0.1Q$

Variable costs are given by:

Corn: $VC = 2Q + 0.1Q^2$

Soybeans: $VC = 5Q + 0.05Q^2$

- a) Suppose the price of corn is initially priced at \$5/bushel and soybeans are priced at \$6/bushel. What do you produce in each area? What is your operating profit on each plot and what are your implicit costs?
- b) Suppose a large increase in demand for tofu increases the price of soybeans to \$8/bushel, while the price of corn remains at \$5/bushel. What do you choose to produce on each plot? What is your operating profit on each plot and what are your implicit costs?
- c) Given that these prices are available to all farmers, what would you expect to happen in the long-run to the price of soybeans and the price of corn? Explain why this happens.

SOLUTIONS AND INSTRUCTOR NOTESDiscussion Question

Between 2002 and 2007, the number of active real estate agents practicing in California increased approximately 90%, from 139,000 to 262,000. By 2014, the number of active agents declined by more than a third, to 171,000.

- a) Why have there been such dramatic changes in the number of real estate agents in California since 2002?

The number of real estate agents will change depending on the prices of real estate and the expected income that can be generated as a real estate agent. From 2002 – 2007, the real estate properties were dramatically increasing in value, causing individuals to enter the industry. Since 2007, real estate values have fallen dramatically, causing individuals to exit the industry.

- b) What do individuals consider when deciding whether to enter or exit the real estate industry?

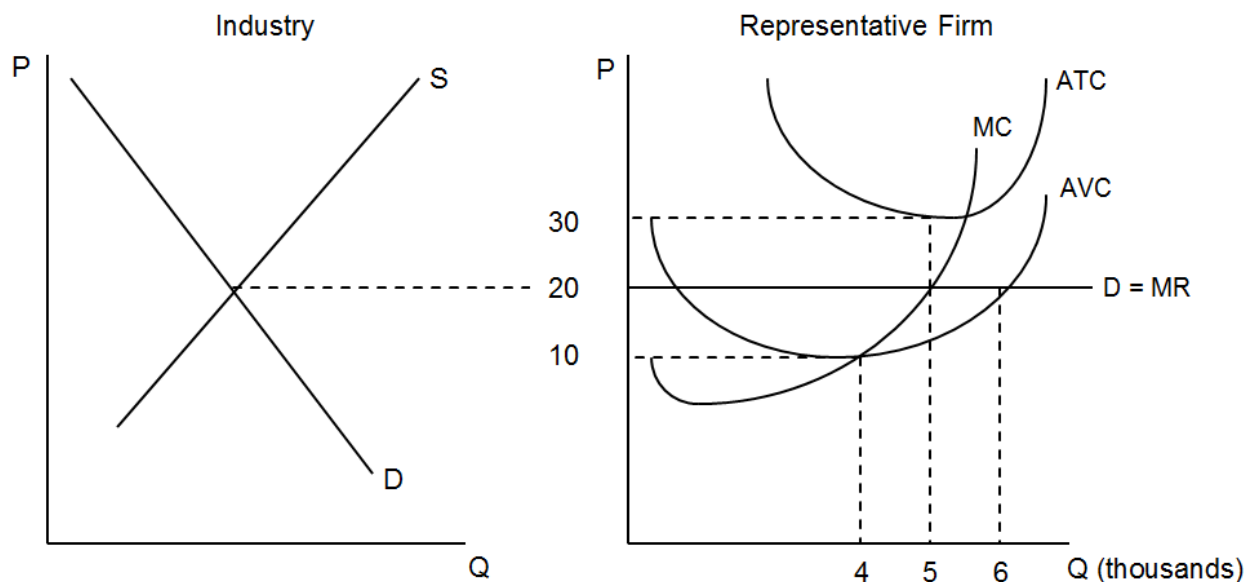
Individuals will consider the amount they expect to earn as a real estate agent (their accounting profit) compared to the amount they can expect to make doing something else (their implicit costs). Therefore, a typical real estate agent should not expect to earn economic profit in the long run.

- c) Analyze the real estate agent market in terms of the market structure characteristics. Given these characteristics, what do you think is true regarding the 'economic profit' (their expected income minus their implicit cost) of a typical real estate agent in the long run?

The three characteristics include: Number of sellers, type of product, and the degree of barriers to entry. For this industry, there are a large number of sellers (so many that no single one can influence the market price), they are all selling relatively homogenized services (real estate agent services), and there are relatively low barriers to entry and exit (an individual can become licensed to be an agent in a matter of weeks). Because they operate in a highly competitive industry, we can expect their economic profit to equal zero in the long run, or that their expected income as a real estate agent will equal their expected income in their next best alternative.

Peer Group Problem Solving

Use the following graph, representing a perfectly competitive industry and firm, to answer the following questions:



- a) How much will this firm produce?

Where $MR = MC$, which is 5,000.

- b) What do this firm's economic profits currently equal?

$Profit = (P - ATC) \times Q$. For this firm $P = \$20$, $ATC = \$30$, and $Q = 5,000$, so their profits equal $(\$20 - \$30) \times 5,000 = -\$50,000$.

- c) The cost curves in this graph show economic costs (include both implicit and explicit costs). Suppose this firm has an accounting profit equal to \$30,000. What do their implicit costs equal?

If their accounting profit equals \$30,000, and their economic profit equals -\$50,000, their implicit costs must equal \$80,000.

- d) Will this firm shut down in the short run? Will this firm shut down in the long run? Explain.

Price is above their average variable costs, which means they are generating enough revenue to cover their operating costs, so they will not shut down in the short-run. In the long run we cannot be certain if this firm will shut down or not. If they expect to continue to suffer economic losses, they will shut down.

- e) What can we expect to happen to the industry supply or demand in the long run? How will this affect the equilibrium price?

The industry supply will shift leftward as some firms exit the industry. This will cause the equilibrium price to increase in the long run.

- f) Suppose this is a constant cost industry. Approximately what will the long run equilibrium price equal in this industry?

The long run equilibrium price will adjust to the minimum of the firm's average total cost curve, where economic profits equal zero. For this industry that happens at a price of approximately \$30 (slightly less).

In-Class Experiment / Active Exercise

Have students form groups of 3 or 4 and consider the following questions.

You own two different plots of land, and you have to decide how many bushels of corn and soybeans to grow. You'll base your decision on the market price of corn and soybeans, as well as the marginal costs of growing on each farm, which varies depending on the arability of the land.

Because harvesting requires different inputs, you can only grow one type of food in each area. Because you would pay the same amount for the land and farm equipment regardless of which crop you grow, the fixed costs are the same across industries. For simplicity, assume the fixed costs equal zero.

In plot 1, the marginal costs are given by:

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Corn: $VC = 3Q + 0.1Q^2$

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In plot 2, the marginal costs are given by:

Corn: $MC = 2 + 0.2Q$

Soybeans: $MC = 5 + 0.1Q$

Variable costs are given by:

Corn: $VC = 2Q + 0.1Q^2$

Soybeans: $VC = 5Q + 0.05Q^2$

- a) Suppose the price of corn is initially priced at \$5/bushel and soybeans are priced at \$6/bushel. What do you produce in each area? What is your operating profit on each plot and what are your implicit costs?

In plot 1, if you grow corn you would produce at the point where $5 = 3 + 0.2Q$, $Q = 10$, and your profit would equal $\$50 - \$40 = \$10$. If you grow soybeans you would produce at the point where $6 = 2 + 0.3Q$, $Q = 13.33$, and your profit would equal $\$80 - \$53.33 = \$26.67$. So you would grow soybeans and your implicit costs are \$10 (the profit you would make if you grew corn).

In plot 2, if you grow corn you would produce at the point where $5 = 2 + 0.2Q$, $Q = 15$, and your profit would equal $\$75 - \$52.5 = \$22.5$. If you grow soybeans you would

produce at the point where $6 = 5 + 0.1Q$, $Q = 10$, and your profit would equal $\$60 - \$55 = \$5$. So you would grow corn and your implicit costs are \$5 (the profit you would make if you grew soybeans).

- b) Suppose a large increase in demand for tofu increases the price of soybeans to \$8/bushel, while the price of corn initially remains at \$5/bushel. What do you choose to produce on each plot? What is your operating profit on each plot and what are your implicit costs?

In plot 1 you would still grow soybeans and your implicit costs remain \$10. In plot 2 the profit maximizing q from soybeans equals 30 and your profit becomes $\$240 - \$195 = \$45$. Your implicit costs are now the \$22.5 you could have made if you grew corn.

- c) Given that these prices are available to all farmers, what would you expect to happen in the long-run to the price of soybeans and the price of corn? Explain why this happens.

In the long run, more farmers would grow soybeans which would increase the supply and decrease the price of soybeans. Fewer farmers would grow corn, which would decrease the supply and increase the price of corn. This would happen until the profit that could be generated per acre of land from corn and soybeans are equalized.

For more in-class experiment and active learning ideas, visit www.econedactive.com.