CollegeBoard
Advanced Placement Program

Student Performance Q&A:

2005 AP® Microeconomics Free-Response Questions

The following comments on the 2005 free-response questions for AP® Microeconomics were written by the Chief Reader, Arthur Raymond of Muhlenberg College in Allentown, Pennsylvania. They give an overview of each free-response question and of how students performed on the question, including typical student errors. General comments regarding the skills and content that students frequently have the most problems with are included. Some suggestions for improving student performance in these areas are also provided. Teachers are encouraged to attend a College Board workshop, to learn strategies for improving student performance in specific areas.

Question 1

What was the intent of this question?

The question tested students' understanding of the relationship between the firm and the market in a perfectly competitive industry. Part (a) asked students to draw side-by-side graphs for the market and a typical firm in long-run equilibrium. Part (b) required students to determine the effect of a change in market demand on the industry and the firm in the short run. In part (c) students were asked to state the condition necessary for firms to produce in the short run. Finally, students were asked to compare industry price, firm output, and the number of firms in the industry from the initial long-run equilibrium to the new long-run equilibrium produced by the change in market demand from part (b).

How well did students perform on this question?

The mean score was 6.11 out of a possible 12 points, which is almost 51 percent of the maximum. Scores were distributed over the entire range of points. This was a good question on perfect competition, requiring students to graphically demonstrate their understanding of short-run and long-run equilibria for the firm and the market, and to explain the nature of adjustments from one long-run equilibrium to another.

What were common student errors or omissions?

A common error was confusing the relationship between the firm and the market in a competitive industry, and what conditions are met in the long run. Equally confusing to students was how a change in market demand affects the price of a competitive firm. The most common errors were not recognizing that in a constant-cost industry the long-run equilibrium price is constant, and that the output of a typical firm is unchanged from one long-run equilibrium to another.

Based on your experience of student responses at the AP Reading, what message would you like to send to teachers that might help them to improve the performance of their students on the exam?

Teachers must emphasize that the price faced by a perfectly competitive firm is constant and cannot be changed by the firm, but that the price can change if market supply or demand change. It is also very important for students to understand that any short-run change in market price will produce short-run changes in profits that result in entry or exit in the long run. Exit and entry will return price to the original long-run equilibrium price in a constant-cost industry.

Question 2

What was the intent of this question?

The question tested students' ability to determine the effects of a tax on price, consumer surplus, producer surplus, tax revenues, and deadweight loss. Part (a) asked students to identify price, quantity, consumer surplus, and producer surplus before a tax. Students were asked in part (b) to explain why the burden of the tax was shared between producers and consumers. In part (c) students were required to identify the post-tax consumer surplus, deadweight loss, tax revenues, and net price received by sellers.

How well did students perform on this question?

Students performed well on this question, averaging 4.75 points out of a possible 9 points, which is almost 53 percent of the maximum. Scores were distributed over the entire range of possible points.

What were common student errors or omissions?

The most common errors were in identifying the net price received by sellers after the imposition of a per-unit tax and the total tax revenues. Another common error was the inability to explain why the per-unit tax was shared between producers and consumers.

Based on your experience of student responses at the AP Reading, what message would you like to send to teachers that might help them to improve the performance of their students on the exam?

First, it is necessary to teach students the concepts of consumer surplus, producer surplus, and deadweight loss, how to identify these concepts graphically, and how consumer surplus and producer surplus change when the price changes. Next, it is very important to teach how the price elasiticities of supply and demand affect the distribution of the burden of a per-unit tax between producers and consumers.

Question 3

What was the intent of this question?

The question tested students' understanding of market structure in the product and labor markets and the firm's profit-maximizing use of labor.

How well did students perform on this question?

The mean score was 3.94 out of a possible 8 points or approximately 49 percent of the maximum. A significant number of students did earn all 8 points.

What were common student errors or omissions?

Students were often unable to recognize that when a firm faces a constant price for different levels of its output, it operates in a perfectly competitive output market. Similarly, students were often unable to recognize that when a firm faces a constant wage for different levels of labor usage, it operates in a perfectly competitive labor market. The two most common errors were the inability to find the profit-maximizing level of labor usage and to explain the condition that applies at the profit-maximizing level of labor usage.

Based on your experience of student responses at the AP Reading, what message would you like to send to teachers that might help them to improve the performance of their students on the exam?

Teach the conditions associated with each market structure in output markets and in labor markets. It is important to establish that in perfectly competitive markets, one firm can sell as much output as it desires at the market price. Similarly, in perfectly competitive markets one firm can hire as much labor as it desires at the market wage. An important idea to teach is that labor usage should be increased as long as marginal revenue product exceeds the wage rate. An additional laborer should not be hired if the marginal revenue product is less than the wage rate.