Student Performance Q&A:

2002 AP® Microeconomics Free-Response Questions

The following comments are provided by the Chief Faculty Consultant regarding the 2002 free-response questions for AP Microeconomics. *They are intended to assist AP workshop consultants as they develop training sessions to help teachers better prepare their students for the AP Exams*. They give an overview of each question and its performance, 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 included. Consultants are encouraged to use their expertise to create strategies for teachers to improve student performance in specific areas.

Microeconomics Question 1

What was intended by the question?

This long microeconomics question tested the student's understanding of both output and input markets, as well as the linkage between the market and the individual firm. Also, the question included two different market structures, monopoly and perfect competition.

How well did students perform?

The mean student grade was 43.8 percent of the maximum. The question was quite effective in separating across different grading points.

What were common errors or omissions?

Two general observations should be noted. First, too many students seemed unaware of the meaning of side-by-side graphs, needed in parts (b) and (c). To show the links between a market and an individual competitive firm convincingly, these graphs are necessary. As a result of this deficiency, in both parts (b) and (c), students frequently did not separate the market from the individual firm. A critical concept in perfect competition, both in the labor market and in the output market, is that of "price taking." For the competitive firm hiring labor in a perfectly competitive labor market, the price of labor becomes the firm's perfectly elastic labor supply, with the individual firm able to hire all the labor it wishes at the market-determined wage. Similarly, in the competitive output market, the individual firm faces a perfectly elastic product demand at the market-determined output price.

Finally in part (a), students too frequently misidentified profit per unit (the vertical difference between P and ATC) as total profits; they did not multiply profit per unit by quantity to arrive at total profits. Also, students often did not realize that the long-run equilibrium in perfect competition would lead to production at the minimum of each firm's long-run average total cost curve.

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

As a general rule applicable for all questions, students too frequently do not provide explanations when asked. If the question asks for an explanation, a simple assertion of the correct result will not earn full credit. Also, students frequently lose credit for incompletely labeled graphs. A fully correct graph requires that each axis be labeled and each curve be labeled.

Microeconomics Question 2

What was intended by the question?

We began this question reminding students that an efficient allocation of resources occurs when the marginal social cost equals the marginal social benefit. Students then had to assess two situations in which an efficient allocation of resources does not occur and to explain why inefficiency exists. In the case of the polluting chemical industry, there will be a negative externality; and the unregulated private market will lead to an overallocation of resources towards chemical output. In the case of national defense, a public good, the unregulated private market will lead to an underallocation of resources towards national defense.

How well did students perform?

The mean score of 1.97 points equaled 45.2 percent of the maximum.

What were common errors or omissions?

In part (a), students frequently did not realize that with a negative externality, the marginal social cost of production will exceed the marginal private cost of production, leading to too great an output at too low a price, since marginal social cost (the appropriate supply curve) exceeds marginal social benefit (the demand curve) at the unregulated equilibrium where demand equals supply (without the incremental social costs).

For part (b), students frequently showed no knowledge of the characteristics of a public good. In particular, the concept of "joint and equal" consumption coupled with the related phenomenon of a "free-rider" problem was absent from student answers.

Microeconomics Question 3

What was intended by the question?

The principal concept being tested in this question was the consumer equilibrium where utility maximization requires that the consumer purchase goods such that the marginal utility per dollar for each commodity is equal.

How well did students perform?

The mean score, 67 percent of the maximum, was higher than normal for a free-response question.

What were common errors or omissions?

Too many students, without understanding the concept of marginal utility per dollar, were able to read from the table given, the correct number of "utils" received from a combination of apples and oranges. Thus, those students with incorrect product combinations in parts (b) and (c) were still able to receive two points for providing the correct level of total utility for the consumer.

In the first part of the question, the utility-maximizing consumer will exhaust her income, purchasing quantities of each good such that for each commodity the marginal utility of the last unit purchased divided by the price of the commodity is equal. This consumer will purchase 3 apples and 2 oranges. The marginal utility per dollar of each commodity is equal: 10/$1 for apples and 20/$2 for oranges. Far too few students were able to apply the utility-maximizing rule of equalizing the marginal utility per dollar for each commodity. For this part, many students correctly identified the correct apple-orange combination by finding the maximum number of utils which could be generated from the income of $7. Since students did not use the "marginal-utility per dollar" concept, for which the question asked, the student did not receive credit for the explanation of the correct combination.