



## **Student Performance Q&A:**

### **2011 AP<sup>®</sup> Macroeconomics Free-Response Questions**

The following comments on the 2011 free-response questions for AP<sup>®</sup> Macroeconomics were written by the Chief Reader, David A. Anderson of Centre College in Danville, Ky. 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?***

Part (a) tested students' ability to model the relationship between inflation and unemployment using short-run and long-run Phillips curves. Parts (b) and (c) tested for understanding of the standard model of aggregate demand and aggregate supply. Part (d) gauged students' understanding of monetary policy and the money market graph. Part (e) established whether students understood the economy's self-correction mechanism.

##### ***How well did students perform on this question?***

The mean score was 5.49 out of a possible 11 points. Students performed especially well on part (b), which asked them to draw an aggregate demand/aggregate supply diagram and identify the current equilibrium and the long-run equilibrium.

##### ***What were common student errors or omissions?***

Students had the most difficulty with part (e), which had them explain what would happen to short-run aggregate supply in the long run in the absence of government intervention. That is, they were to explain the self-correction mechanism for the economy. They were also asked what would happen to the natural rate of unemployment in the long run. Less than a quarter of the students correctly indicated that it would remain unchanged.

##### ***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?***

The self-correction mechanism is notoriously difficult for students to grasp. Sometimes I ask students to come in with a full-page explanation of the process, accompanied by a graph, to get

them thinking and reading about it for a significant period of time while completing their homework. These challenging concepts cannot be learned via lecture alone! Time spent studying and putting pen to paper are the keys to mastery.

## Question 2

### ***What was the intent of this question?***

Part (a) determined students' ability to draw and manipulate the graph for the loanable funds market. Part (b) tested for understanding of the foreign exchange market, including the ability to model and interpret changes in the market.

### ***How well did students perform on this question?***

The mean score was 2.52 out of a possible 6 points. Students performed well on part (a)(ii), drawing and manipulating the model of the loanable funds market. Students also displayed a good understanding of the relationship between exchange rates and exports.

### ***What were common student errors or omissions?***

Many students had difficulty interpreting the effects of interest-rate changes on employment and foreign-exchange markets.

### ***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?***

Because interest rates are important drivers of investment both domestically and internationally, it is a good idea to stress their influence. High interest rates are a carrot that dangles before money holders across the world. Countries with relatively high interest rates receive relatively more money invested from overseas, which of course must be converted into the domestic currency before it can be invested — with clear implications for the foreign-exchange market. It is low interest rates domestically that make more investments in capital worthwhile, because the payoffs of more projects exceed the cost of borrowing money.

## Question 3

### ***What was the intent of this question?***

This question established students' proficiency with balance sheets, the money multiplier and the bond market.

### ***How well did students perform on this question?***

The mean score was 1.94 out of a possible 6 points. Many students did well in calculating the required reserve ratio, and the general workings of the money multiplier seemed to be broadly understood.

***What were common student errors or omissions?***

When calculating increases in the money supply, there is often confusion about when to apply the multiplier to the entire amount of the deposit/bond sale and when to apply it only to the amount of the initial loan after the deposit/bond sale. The key is to determine whether the money in question was already part of the money supply or not. If it was not, as in the case of money coming from the Federal Reserve, then the multiplier applies to the entire amount. If the money was already part of the money supply, as when it came from an individual's wallet, then the multiplier is applied only to the amount of the initial loan after the money is deposited.

Students were often distracted by the figures in the balance sheet that were irrelevant to the calculation they needed to complete.

***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?***

Many students who do well with typical problem solving and graphing in economics do not do well with balance sheets, which require a different sort of mindset. Help students set aside items that don't matter to particular calculations, such as owner's equity, and focus on the items that go into the formulas that produce correct answers. Worksheets with many different scenarios are a useful approach for drilling on the details of money creation and other balance sheet issues.

The inverse relationship between bond prices and interest rates is easy to tell students about and good for them to be aware of.