Student Performance Q&A:

2016 AP® Macroeconomics Free-Response Questions

The following comments on the 2016 free-response questions for AP® Macroeconomics were written by the Chief Reader, Arthur Raymond of Muhlenberg College in Allentown, Pa. 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?

This question examined the students' understanding of the Phillips Curve and the effects of monetary policy used to reduce unemployment. Part (a) required students to use the Phillips Curve model to show the relationship between inflation and unemployment in the long run (the long-run Phillips Curve) and in the short-run (the short-run Phillips Curve) and to show an economy in short-run equilibrium when actual unemployment exceeds the natural rate of unemployment. From this short-run equilibrium, part (b) asked students to explain how the short-run Phillips Curve changes in the long run when actual unemployment exceeds the natural rate of unemployment. The remainder of the question addressed the monetary policy needed to lower unemployment and the effects of that monetary policy. Part (c) asked for the open market operation necessary to lower unemployment. Part (d) asked for an explanation of how the open-market operation affects the federal funds rate and how the real interest rate in the short run is affected. Part (e) required an explanation of the effect of the change in the real interest rate on real GDP. Part (f) asked students to identify the effect of the change in real GDP on the demand for the Japanese yen, and part (g) asked them to use a graph to show the change in the demand for the yen and its effect on the value of the yen.

How well did students perform on this question?

The average score was 4.71 which is 47.1 percent of the maximum 10 points.

What were common student errors or omissions?

The most common free-response error was the inability of students to explain how the short-run Phillips curve shifts when actual unemployment exceeds the natural rate of unemployment. Other common errors included the failure to: indicate a short-run equilibrium on a diagram that includes the long-run and short-run Phillips curves, identify the effect of a change in the money supply on the federal funds rate, explain the

effect of a lower real interest rate on real GDP, and identify and show the effect on exchange rates of a change in real GDP in the United States on the demand for the Japanese yen.

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?

It is important to emphasize that when actual unemployment exceeds the natural rate of unemployment and government undertakes no policy actions to address the unemployment, there will be downward pressure on wages and other input prices, leading to a shift to the left of the short-run Phillips curve which will reduce unemployment and inflation. Teachers should also emphasize that a reduction in the real interest rate leads to an increase in real GDP because a reduction in the real interest rate increases interest-sensitive components of spending like investment by firms in plant and equipment.

An error that appears year-to-year in the free-response questions is the inability to draw a correctly labeled diagram of the foreign currency market and to show the effect on the exchange rate of a change in the supply and/or demand for currency. In this year's question, students were generally unable to determine that an increase in real GDP in the United States will lead to an increase in the demand for Japanese yen and to show that the increased demand for the yen leads to an increase in the value of the yen relative to the U.S. dollar. Teachers must stress the importance of correctly labeling the axes and the supply and demand curves of the foreign currency diagram, and what causes the supply and demand curves for foreign currency to shift. Finally, many students were unable to explain that the expansionary open-market policy of buying bonds will decrease the federal funds rate because the open-market policy increases the supply of reserves in the banking system. Teachers should establish the connection between the effect of an open-market purchase and sale on the supply of reserves in the banking system and the effect of the changes in the supply of reserves on the federal funds rate.

Question 2

What was the intent of this question?

This question addressed the ability of banks to make loans, create deposits, and change the money supply. A balance sheet (T-account) of one bank is provided and the required reserve ratio is given, on the basis of which students were asked in part (a) to explain the dollar value of new loans that the bank can make. In part (b) students were required to calculate the maximum amount of new loans that could be made on the basis of a cash deposit. In part (c) students were required to calculate the maximum amount of loans and demand deposits in the banking system based on the cash deposit from part (b). In part (d) students were asked to calculate the maximum change in the money supply based on the cash deposit from part (b). In part (e) students were asked to provide one reason why the actual change in money supply can be smaller than the maximum change calculated in part (d).

How well did students perform on this question?

Students earned an average of 1.45 points, which is 24.2 percent of the maximum of 6 points.

What were common student errors or omissions?

The common errors included the students' inability to calculate the new loans that a bank could make from given levels of demand deposits and reserves, and to calculate the change in total loans and demand deposits in the banking system when a private citizen deposits cash in a demand deposit account.

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 should establish the relationship between the level of demand deposits, reserves, and loans on the balance sheet of a commercial bank and how to calculate changes in demand deposits and loans in the banking system as a result of a change in reserves from a cash deposit. In calculating changes in demand deposits and loans it is important to emphasize that the steps used in calculations be written out carefully in order to avoid needless errors.

Question 3

What was the intent of this question?

This question tested students' knowledge of absolute advantage, comparative advantage, and exchange. From a table of production capabilities of two individuals for two goods, students were asked in part (a) to explain who has the absolute advantage and in part (b) to explain who has the comparative advantage. Part (c) provided a rate at which the two goods can be exchanged and asked whether each individual can gain from exchange. Part (d) required students to show the effect of a change in technology for one good on the production possibilities curve of one individual.

How well did students perform on this question?

Students performed quite well on this question. The average score of 3.43 is greater than 68 percent of the maximum of 5.

What were common student errors or omissions?

The most common error was the failure to distinguish when a given terms of trade is beneficial or not beneficial.

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 should demonstrate the range of terms of trade at which specialization and exchange is beneficial and the range at which specialization and exchange is not beneficial.