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# AP<sup>®</sup> Macroeconomics

## Sample Student Responses and Scoring Commentary

### Set 2

#### **Inside:**

#### **Free Response Question 1**

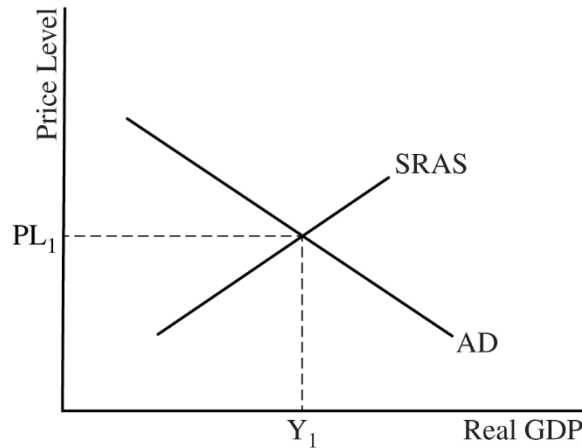
- Scoring Guideline**
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- Scoring Commentary**

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**2019 SCORING GUIDELINES**

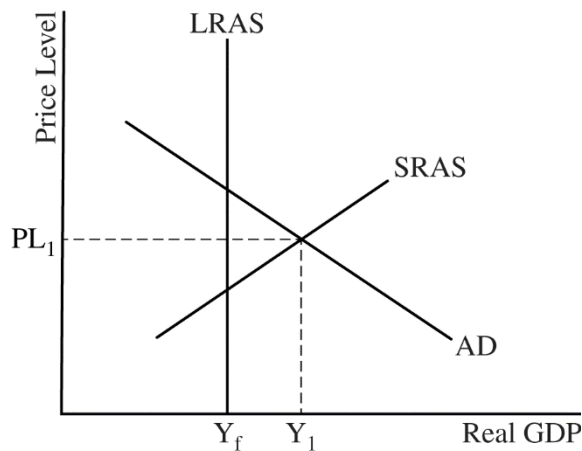
**Question 1**

**10 points (2 + 2 + 3 + 2 + 1)**

**(a) 2 points**



- One point is earned for drawing a correctly labeled graph showing a downward sloping aggregate demand (AD) curve, an upward sloping short-run aggregate supply (SRAS) curve, the equilibrium output level labeled  $Y_1$ , and the equilibrium price level labeled  $PL_1$ .

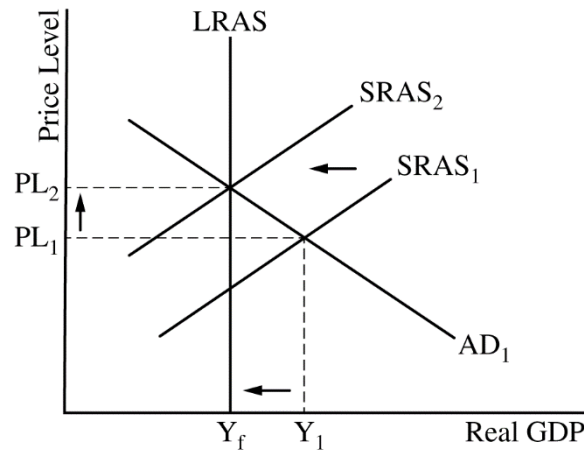


- One point is earned for drawing a correctly labeled vertical long-run aggregate supply (LRAS) curve with full employment output labeled  $Y_f$  to the left of the short-run equilibrium output level,  $Y_1$ .

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**Question 1 (continued)**

**(b) 2 points**



- One point is earned for showing a leftward shift in the SRAS curve and for showing  $PL_2$  higher than  $PL_1$ .
- One point is earned for explaining that the SRAS curve will shift to the left due to the increase in input prices, nominal wages, or inflationary expectations.

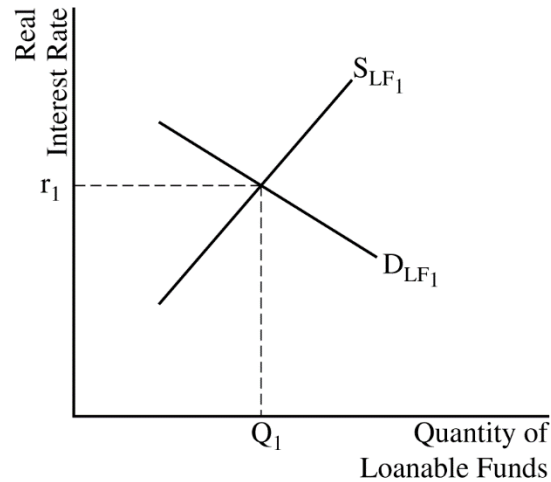
**(c) 3 points**

- One point is earned for stating a decrease in government spending, a decrease in transfer payments, or an increase in taxes.
- One point is earned for stating that the unemployment rate will increase and the natural rate of unemployment will not change.
- One point is earned for stating that the automatic adjustment will produce a higher price level than the fiscal policy.

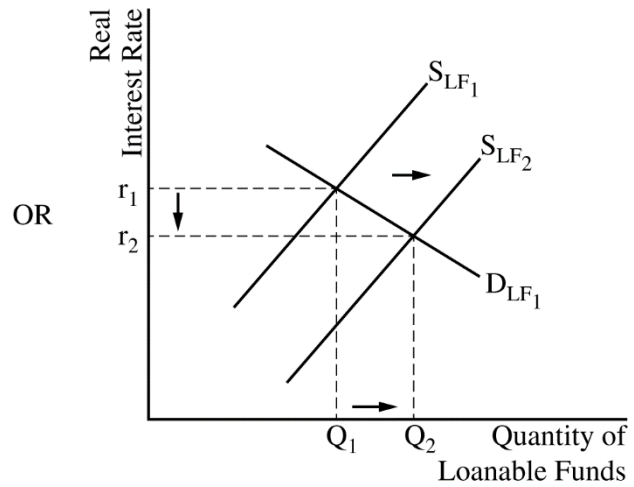
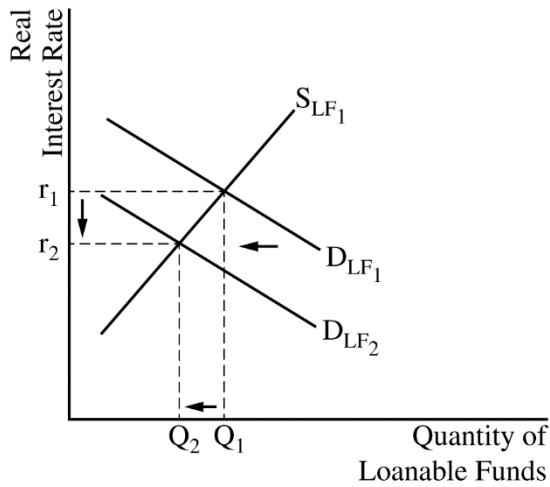
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**Question 1 (continued)**

**(d) 2 points**



- One point is earned for drawing a correctly labeled graph of the loanable funds market.

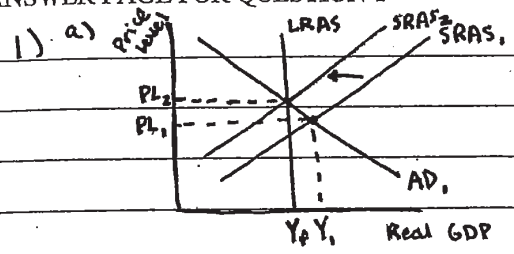


- One point is earned for showing a leftward shift of the demand for loanable funds curve (or a rightward shift in the supply of loanable funds curve) and a decrease in the real interest rate.

**(e) 1 point**

- One point is earned for stating that the LRAS curve will shift to the right and for explaining that the lower real interest rate will lead to increased capital formation due to increased investment spending.

ANSWER PAGE FOR QUESTION 1



(i) on graph  
(ii) on graph

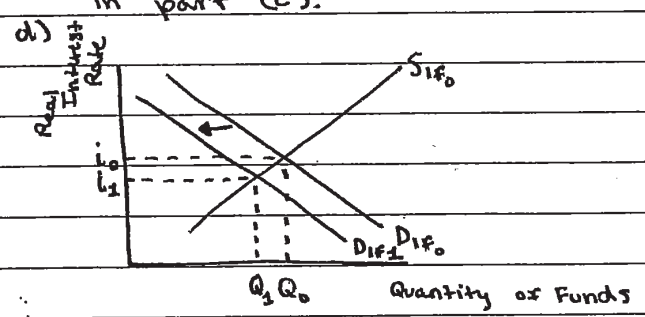
b)(i) on graph

(ii) In the long run, short run aggregate supply will decrease. The economy is operating at a level greater than full employment and workers will demand higher wages to compensate for the high prices being experienced. Wages increase so costs of production also increase causing short run aggregate supply to decrease.

c)(i) The government could close the output gap by decreasing government spending.

(ii) A decrease in government spending will increase the unemployment rate and have no impact on the natural rate of unemployment.

(iii) The automatic adjustment from part (b) will produce a higher price level than the fiscal policy identified in part (c).



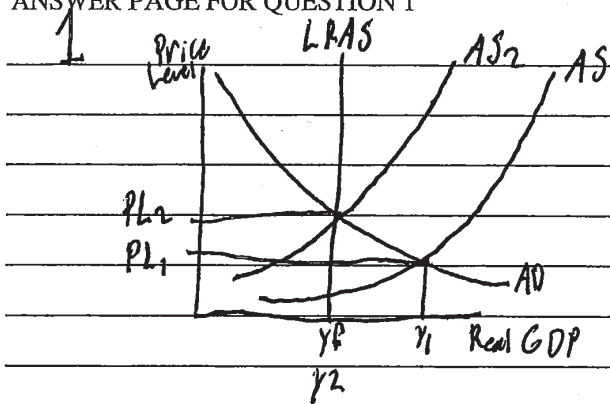
e) The interest rate decreased as shown by the graph above which means that interest sensitive investment and the amount of capital investment will increase. In the long run, an increased amount of capital investment will

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ADDITIONAL PAGE FOR ANSWERING QUESTION 1

increase productivity and potential output therefore shifting the long  
run aggregate supply curve to the right.

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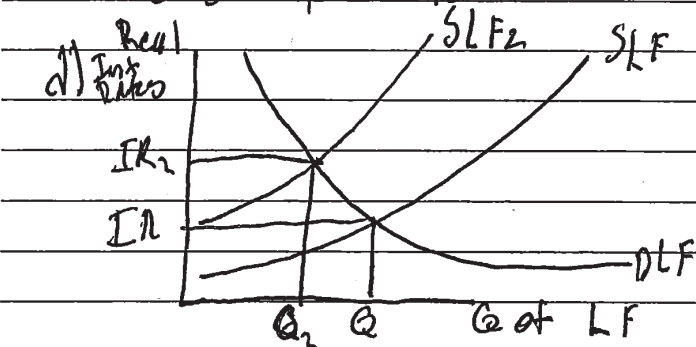


b) i) Businesses will supply less to meet the decreased demand and shift back to equilibrium.

c) i) Increase in some taxes.

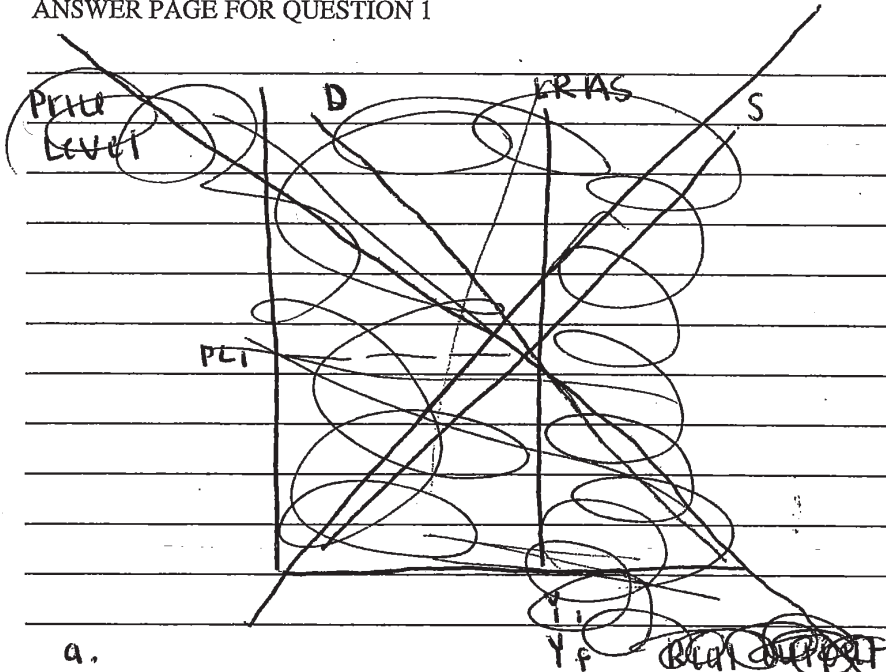
ii) unemployment - ↑  
NRU - stays the same.

iii) Lower price level.

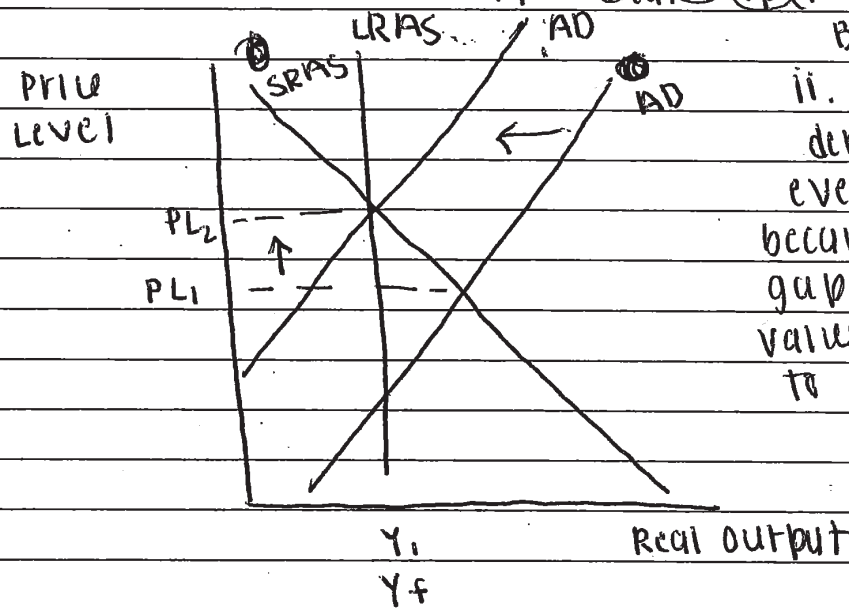


Int Rates increase

c) The LRAS will stay the same because while investment may decrease, the long run ~~represent~~ represents all prior investment, and will therefore, not shift.



a.



b.

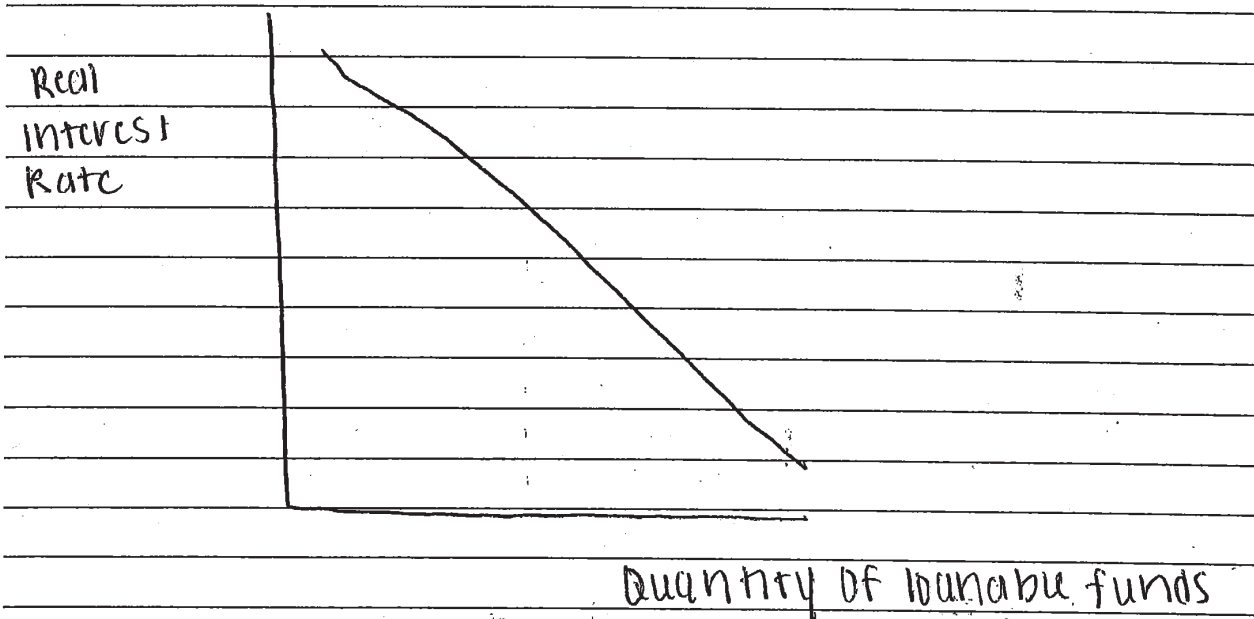
ii. The aggregate demand will eventually decrease because the inflationary gap causes the value of the dollar to decrease.

c.

- i. The government could ~~increase~~ decrease spending
- ii. The unemployment rate would increase and the natural rate of unemployment will have no change.
- iii. The automatic adjustment would produce a lower price level compared to the fiscal policy.

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e. The LRAS curve will shift left due to increasing interest rates.

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## 2019 SCORING COMMENTARY

### Question 1

**Note:** Student samples are quoted verbatim and may contain spelling and grammatical errors.

#### Overview

The question examined students' understanding of the aggregate demand/aggregate supply (AD/AS) model and how the model can be used to show an inflationary output gap in the economy of Artland. The question also asked students to demonstrate their understanding of how the economy could return to long-run equilibrium through the process of self-correction or, alternatively, through the use of fiscal policy. Finally, the question examined students' understanding of the linkages between fiscal policy, real interest rates in the loanable funds market, and long-run economic growth.

Part (a) required students to use the AD/AS model to show Artland's economy in an inflationary gap by illustrating that the current level of output (real gross domestic product, RGDP) is greater than the full employment level of output. For part (b) students were asked to assume the central bank and the government take no policy actions to close the recessionary gap. Part (b)(i) required students to show how the economy would adjust to full employment in the long run on the graph created for part (a) and it also required students to label the new equilibrium price level  $PL_2$ . Then, in part (b)(ii) the students were asked to explain how the economy would adjust to full employment in the long run.

Next, in part (c), students were told to assume that the government of Artland wanted to close the output gap using fiscal policy. In part (c)(i) the students were asked to identify a fiscal policy action that could close the output gap. Part (c)(ii) asked the students to determine how the fiscal policy action identified in part (c)(i) would affect the unemployment rate and the natural rate of unemployment. In part (c)(iii) the students were asked to determine if the automatic adjustment identified in part (b)(i) would produce a price level that was higher, lower, or the same as the price level produced by the fiscal policy identified in part (c)(i).

Part (d) asked students to draw a correctly labeled graph of the loanable funds market and to show the effect of the fiscal policy action identified in part (c)(i) on the equilibrium real interest rate.

Part (e) required students to explain why the long-run aggregate supply curve (LRAS) would shift to the right, to the left, or remain in the same location as a result of the interest rate change identified in part (d).

#### Sample: 1A

**Score: 10**

The student answers all parts of the question correctly and earned all 10 points.

#### Sample: 1B

**Score: 6**

The student did not earn 1 point in part (b)(ii) because the explanation of the leftward shift of the SRAS curve does not reference an increase in input prices, wages, or inflationary expectations. The student did not earn 1 point in part (c)(iii) for stating that the price level will be lower. The student did not earn 1 point in part (d) for shifting the supply of loanable funds curve to the left. The student did not earn 1 point in part (e) for stating that LRAS will stay the same, which is inconsistent with the increase in interest rates shown in part (d).

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**2019 SCORING COMMENTARY**

**Question 1 (continued)**

**Sample: 1C**

**Score: 2**

The student earned 1 point in part (c)(i) for correctly stating that the government could decrease spending. The student earned 1 point in part (c)(ii) for stating that the unemployment rate would increase and that the natural rate of unemployment would have no change.