

2023



AP[®] Macroeconomics

Scoring Guidelines

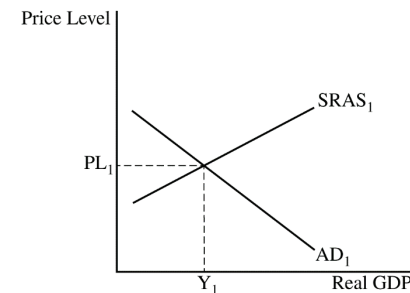
Set 1

AP[®] Macroeconomics 2023 Scoring Guidelines

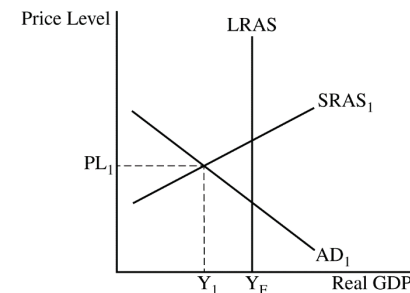
Question 1: Long

10 points

- (a) Draw a correctly labeled aggregate demand–aggregate supply graph that shows PL_1 and Y_1 at the intersection of aggregate demand and short-run aggregate supply. **1 point**



For the second point, the graph must show a vertical long-run aggregate supply curve to the right of Y_1 and label the full-employment output as Y_F . **1 point**



Total for part (a) 2 points

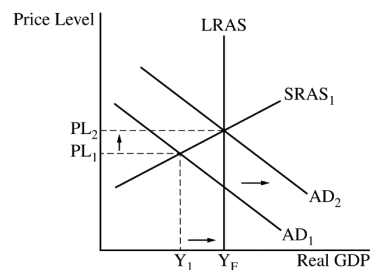
- (b)(i) Explain that input prices (e.g., nominal wages) and/or inflationary expectations will decrease, causing $SRAS$ to increase until it reaches full employment. **1 point**
- (ii) State that the price level will be less than PL_1 . **1 point**

Total for part (b) 2 points

- (c)(i) Calculate the minimum change in government spending as an increase of \$10 million and show your work. **1 point**

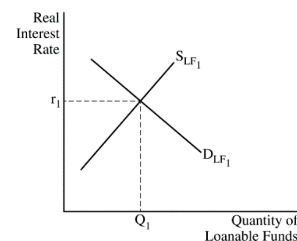
$$\text{Minimum Change} = \frac{\text{Output Gap}}{\text{Spending Multiplier}} = \frac{\$50 \text{ million}}{\left(\frac{1}{0.2}\right)} = \frac{\$50 \text{ million}}{5} = \$10 \text{ million}$$

- (ii) On the graph from part (a), show the short-run effect of the change in government spending as a rightward shift of the aggregate demand curve where the new short-run equilibrium intersects the long-run aggregate supply curve at a higher equilibrium price level, labeled PL₂. **1 point**

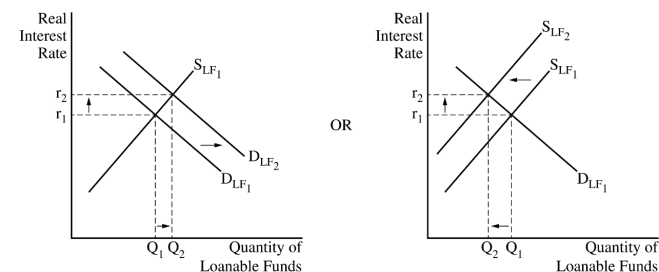


Total for part (c) 2 points

- (d) Draw a correctly labeled graph of the loanable funds market. **1 point**



- For the second point, the graph must show an increase in the demand for loanable funds (or a decrease in the supply of loanable funds), resulting in an increase in the equilibrium real interest rate. **1 point**



Total for part (d) 2 points

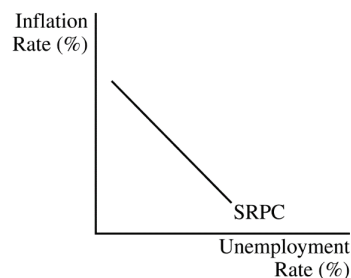
- (e)(i) State that the price of previously issued bonds will decrease. **1 point**
- (ii) State that the rate of economic growth in the long run will decrease and explain that an increase in the real interest rate means the cost of borrowing has increased, which will decrease investment spending on physical capital, human capital, and/or research and development. **1 point**

Total for part (e) 2 points

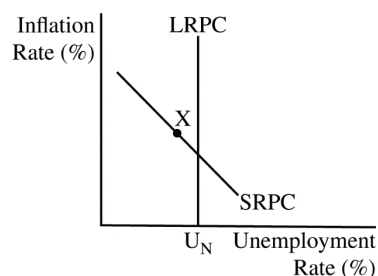
Total for question 1 10 points

Question 2: Short**5 points**

- (a) Draw a correctly labeled graph of the short-run Phillips curve (SRPC). **1 point**



For the second point, the graph must include a correctly labeled long-run Phillips curve (LRPC) and show point X on the SRPC to the left of the LRPC. **1 point**

**Total for part (a) 2 points**

- (b) State that the central bank would increase its administered interest rates or increase interest on reserves. **1 point**
- (c) State that there will be an increase in the flow of international financial capital into Noralandia and explain that international investors will seek higher returns on financial capital in Noralandia. **1 point**
- (d) State that Noralandia's currency will appreciate and explain there will be an increase in the demand for Noralandia's currency (or a decrease in the supply of Noralandia's currency). **1 point**

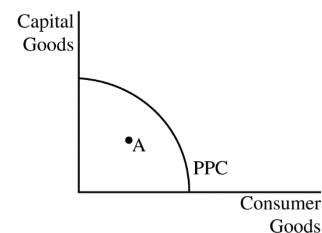
Total for question 2 5 points**Question 3: Short****5 points**

- (a) Calculate the number of people that are unemployed as 63,000 and show your work. **1 point**

$$\begin{aligned}\text{Unemployed} &= \text{Unemployment Rate} \times \text{Labor Force Participation Rate} \\ &\quad \times \text{Adult Population} = 9\% \times 70\% \times 1,000,000 = 63,000\end{aligned}$$

- (b) State that the country of Zeta is currently experiencing a recessionary gap and explain that the current unemployment rate (9%) is higher than the natural rate of unemployment (5%). **1 point**

- (c) Draw a correctly labeled graph of the production possibilities curve (PPC) for Zeta that shows point A below the PPC. **1 point**



- (d) (i) State that the labor force participation rate will decrease and explain that the labor force will decrease because the workers who stopped looking for employment are no longer considered to be unemployed. **1 point**
- (ii) State that the unemployment rate will decrease. **1 point**

Total for question 3 5 points