



## **AP<sup>®</sup> Macroeconomics 2004 Scoring Guidelines**

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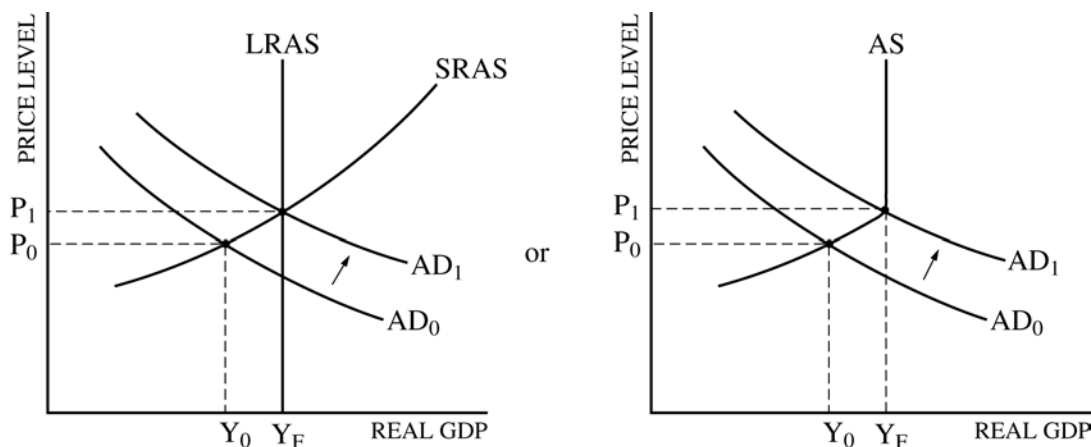
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**Question 1**

**Correct Answer:**

- (a) Draw a correctly labeled AS/AD graph illustrating an economy operating below full employment and showing current price level and output as shown below in the rubrics section.
- (b) The Fed should purchase government bonds to move the economy towards full employment.
- (c) A correctly labeled money market graph is shown in the rubrics section. The purchase of bonds by the Fed would increase the money supply, shifting the money supply curve to the right and resulting in a decrease in the interest rate.
- (d) The resulting decrease in the interest rate would cause interest-sensitive expenditures (consumption and investment) to increase. Aggregate demand would increase, resulting in an increase in output and price level.
- (e) The increase in AD should be shown as a rightward shift of the AD curve toward full-employment GDP on the original AS/AD graph in part (a).
- (f) According to classical economic theory, if no action were taken by the Fed to mitigate the recession, wages or other production costs would eventually fall. As a result, the SRAS curve would shift to the right resulting in an increase in output and a decrease in the price level.

**Scoring Guidelines: 13 points** (3+1+3+2+1+3)



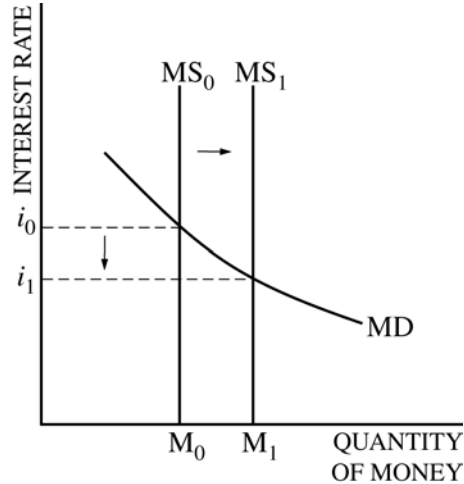
(a) 3 points:

- 1 - AD/AS graph with full-employment output shown
- 1 - showing below full-employment equilibrium
- 1 - current price level and output

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**Question 1 (cont'd.)**

(b) 1 point: for identifying correct monetary policy: buy bonds



(c) 3 points:

- 1 - correct graph of the money market
- 1 - for the rightward shift of the money supply curve
- 1 - for showing the resulting decrease in the interest rate

(d) 2 points:

- 1- the decrease in the interest rate causes an increase in I and/or C
- 1- AD increases as a result of change in C and/or I with a link to the interest-rate change in (c)

(e) 1 point: for the increase in the price level and real output as a result of the AD shift

(f) 3 points:

- 1 - wages or other production costs would fall
- 1 - AS curve would shift to the right
- 1 - price level would fall and real output would rise

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**Question 2**

**Correct Answer:**

- (a) An increase in savings increases the supply of loanable funds (shifts the supply of loanable funds curve to the right). An increase in the supply of loanable funds will lead to a reduction in the real interest rate.
- (b) Because there is a reduction in the US real interest rate (with real rates in the rest of the world unchanged), US financial assets are less attractive, so there will be a decreased demand for US financial assets. With a decreased demand for US financial assets there will be a decreased demand for (and/or increased supply of) the dollar in the foreign exchange market. The decreased demand for the dollar in the foreign exchange market will cause the international value of the US dollar to depreciate.
- (c) A depreciation of the dollar makes US goods relatively cheaper than foreign goods, so imports will decrease and exports will increase.

**Scoring Guidelines: 7 points** (2+3+2)

(a) 2 points:

1 - the supply of saving (loanable funds) increases, shifting the supply curve for loanable funds to the right

1 - the interest rate falls (assertion w/o prior point is ok)

(b) 3 points:

1 - U. S. financial assets become less attractive investment instruments (not just a repeat of the stem)

- must be consistent with the interest change in part (a)

1 - The demand for the U. S. dollar would decrease

- must be consistent with (b)(i) or if answer to (b)(i) is not present, then it must be consistent with the interest rate change given in (a)

1 - The dollar would depreciate

- must be consistent with shift of demand (and/or supply) of dollar

(c) 2 points:

1 - imports will decrease

1 - exports will increase

- must be consistent with appreciation/depreciation of (b)(ii), or if answer to (b)(ii) is not present, then it must be correct (consistent with the stem of the question)
- note that (c) can be scored without having to refer to (a)

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**Question 3**

**Correct Answer:**

- (a) Since the required reserve ratio is 100%, the increase in the money supply is limited to the \$5,000 increase in deposits and reserves that results from the Federal Reserve's purchase of \$5,000 of bonds.
- (b) If the required reserve ratio is reduced to 10 percent, this bank may now make new loans of \$4,500 (or  $.9 \times \$5,000 = \$4,500$ ). With a required reserve ratio of 10 percent, the money-supply multiplier is equal to 10; thus, the maximum increase in the money supply would be \$50,000 (or  $\$5,000 \times 10 = \$50,000$ ).
- (c) If banks maintain excess reserves, the money supply will not increase by the full-multiplied amount or the \$50,000 maximum. Banks will not lend out the full amount of those reserves that may legally be lent.
- (d) If the public holds some currency rather than demand deposits, the money supply will not increase by the full-multiplied amount or the \$50,000 maximum. Banks will not receive the maximum amount of new deposits and reserves from which they would be making loans.

**Scoring Guideline:** 7 points (1+2+2+2)

(a) 1 point: the money supply would increase by \$5,000

(b) 2 points:

1 - for the correct amount, \$4,500 ( $= 0.9 \times 5,000$ )

1 - for the correct amount from the Fed's action, \$50,000 ( $= 10 \times \$5,000$ )

(c) 2 points:

1 - the increase in the money supply would be less than \$50,000

1 - Maximum expansion assumes that banks use all of their excess reserves. Now banks make fewer loans and create less than the maximum possible.

(d) 2 points:

1 - the increase in the money supply would be less than \$50,000

1 - increased cash holdings by the public reduce bank deposits, resulting in fewer reserves for the banks