

Relax. Read each question carefully. Be sure to answer the question I actually asked, which may or may not be the question you were hoping for.

Question I: Concerning the financial markets –

Part A: Write out the “interest parity condition,” which is the equilibrium condition in the bonds market.

Part B: The equilibrium exchange rate can be inferred from the interest parity condition. Suppose the Federal Reserve is holding $R = .06$, while the European Central Bank is holding $R^* = .05$; and suppose the expected future exchange rate is one dollar for one euro. What is the current exchange rate? If market expectations were to change, increasing the expected depreciation of the dollar, what effect would this have on the current value of the dollar?

Part C: Suppose the Fed conducts an open market operation in which it buys B. Use the US financial markets diagram to show what this would do to US interest rates and the exchange rate. Explain why you shift any curve. What are the market forces (of supply and demand) that bring about any changes in R or E ?

Question II: Short run equilibrium –

Part A: Suppose the inability of households to get home equity loans decreases consumption at each level of income (or shifts the consumption schedule down). Use the US AA-DD diagram to assess the short run effects on E and Y . Be sure to explain why you shift any curve. Show the impact effect (if any) and show the path of adjustment to the new short run equilibrium.

Part B: Explain the economic forces in output markets and financial markets that produced any movements in R , E or Y in Part A.

Part C: Suppose we expanded our model to let the real interest rate affect business investment. Would this tend to make output fall more than pictured in Part B? Or less? Explain why. (You need not use the graphs; a verbal explanation is fine.)

Question III: The economy is currently in recession ($Y < Y_{f.e.}$). “Option M” is to use monetary policy to bring Y to $Y_{f.e.}$. “Option F” is to use fiscal policy (a decrease in T) to bring Y to $Y_{f.e.}$. Here, you will compare the effects of these two options on consumption. With either option, Y rises to $Y_{f.e.}$.

Part A: Does consumption rise more with Option M than with Option F? Or less? Or the same amount? Explain why.

Part B: Does the interest rate rise more with Option M than with Option F? Or less? Or the same amount? Explain why.

Part C: Given current interest rates, the Fed would have a difficult time implementing Option M. Explain why.

Question IV: Some quickies –

Part A:

What are the units of each of the following (example: nominal wage = \$/hr):

- (1) the real exchange rate, EP^*/P .
- (2) the aggregate price level, P .

Part B: The central bank changes the money supply by buying and selling bonds.

- (1) To decrease R , would the central bank buy or sell bonds?
- (2) To appreciate E , would the central bank buy or sell bonds?
- (3) To increase Y , would the central bank buy or see bonds?

In answering, you can just match numbers with the word “buy” or “sell”.

Part C: (maybe not so quick) Assume that E moves automatically to keep $CA = 0$ and

$$C = 5 + 0.75(Y - T)$$

$$G = 10$$

$$I = 10$$

$$T = 0.$$

- (a) (4 points) Calculate the equilibrium value of Y .
- (b) (2 points) Calculate the equilibrium value of C .

Part D: Lags in policy making. Answer true or false

- (1) It takes longer for the Fed to make monetary policy decisions than it takes Congress to make fiscal policy decisions.
- (2) It takes longer for monetary policy actions to affect aggregate demand than it does for fiscal policy decisions.
- (3) It takes longer for monetary policy actions to affect output and employment than it does for them to affect interest rates.
- (4) It takes longer for monetary policy actions to affect output and employment than it does for them to affect inflation.

Relax! Read each question carefully. Be sure to answer the question I actually asked.

Question I: Concerning the financial markets --

Part A: (4 points) Write out the “interest parity condition,” which is the equilibrium condition in the bonds market.

ANSWER –

$$R = R^* + (E^e - E)/E$$

Part B: (5 points) The equilibrium exchange rate can be inferred from the interest parity condition. Suppose the Federal Reserve is holding $R = .06$, while the European Central Bank is holding $R^* = .05$; and suppose the expected future exchange rate is one dollar for one euro. What is the current exchange rate? If market expectations were to change, increasing the expected depreciation of the dollar, what effect would this have on the current value of the dollar?

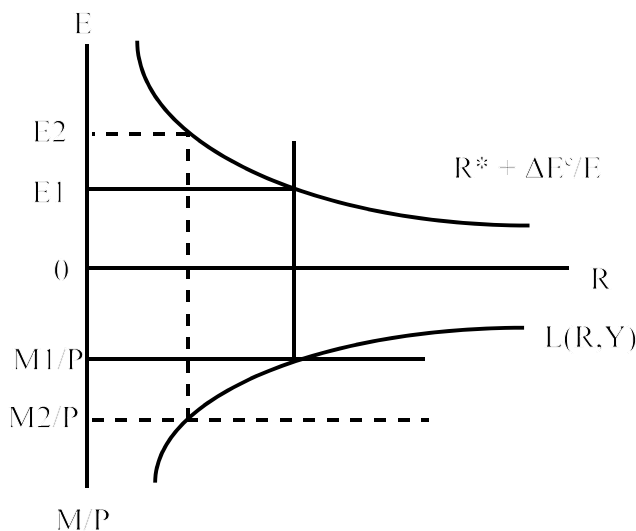
ANSWER –

$$R = R^* + (E^e - E)/E \Rightarrow E_{\$/\epsilon} = E^e_{\$/\epsilon} / (R_{\$} - R_{\epsilon} + 1) = 1 / (.06 - .05 + 1) = 1 / 1.01 \approx .99$$

If $E^e \uparrow (> 1)$, then $E \uparrow$.

Part C: (6 points) Suppose the Fed conducts an open market operation in which it buys B. Use the US financial markets diagram to show what this would do to US interest rates and the exchange rate. Explain why you shift any curve. What are the market forces (of supply and demand) that bring about any changes in R or E ?

ANSWER –



Fed's action $\Rightarrow M^s \uparrow$

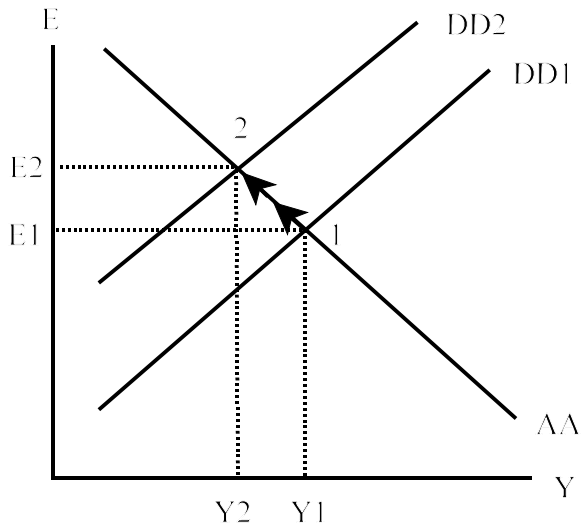
Excess MS $\Rightarrow R \downarrow$

$R \downarrow$ makes US bonds less attractive; investors get out of \$'s and the \$ depreciates.

Question II: Short run equilibrium –

Part A: (8 points) Suppose the inability of households to get home equity loans decreases consumption at each level of income (or shifts the consumption schedule down). Use the US AA-DD diagram to assess the short run effects on E and Y. Be sure to explain why you shift any curve. Show the impact effect (if any) and show the path of adjustment to the new short run equilibrium.

ANSWER –



Fall in $C(Y-T)$ schedule lowers AD and shifts DD to the left.

There is no “impact” effect.

Move out along AA to point 2.

Part B: (8 points) Explain the economic forces in output markets and financial markets that produced any movements in R, E or Y in Part A.

ANSWER –

$C(Y-T) \downarrow \rightarrow D(EP^*/P, Y-T, I, G) \downarrow \rightarrow DD$ shifts left

initial effect is in goods mkt

Y_1 is too high (to right of DD)

ES of US good, Y falls slowly

spills over to financial mkts

$Y \downarrow \rightarrow L \downarrow \rightarrow R \downarrow \rightarrow ED$ for foreign

assets $\rightarrow E \uparrow$ as financial investors get out of \$'s.

this is a terse, outline of an answer
students may lose points if reader is
not convinced they understand

Part C: (5 points) Suppose we expanded our model to let the real interest rate affect business investment. Would this tend to output fall more than pictured in Part B? Or less? Explain why. (You need not use the graphs; a verbal explanation is fine.)

ANSWER –

Real interest rates fall in Part B. This makes it cheaper for firms to finance new investment projects and therefore I would rise. This would restore some of the lost aggregate demand, shifting DD to the right, and make Y fall less.

Question III: The economy is currently in recession ($Y < Y_{f.e.}$). “Option M” is to use monetary policy to bring Y to $Y_{f.e.}$. “Option F” is to use fiscal policy (a decrease in T) to bring Y to $Y_{f.e.}$. Here, you will compare the effects of these two options on consumption. With either option, Y rises to $Y_{f.e.}$.

Part A: (4 points) Does consumption rise more with Option M than with Option F? Or less? Or the same amount? Explain why.

ANSWER –

In the new equilibrium, consumption is given by $C(Y_{f.e.}-T)$. T is lower, and therefore $Y_{f.e.}-T$ and C are higher, with option F.

Part B: (4 points) Does the interest rate rise more with Option M than with Option F? Or less? Or the same amount? Explain why.

ANSWER –

The Y rises to $Y_{f.e.}$ under either option; so, income effect on money demand, $L(Y, R)$, is the same under the two options. However, M^s rises under Option M. So R will be lower under Option M.

Part C: (4 points) Given current interest rates, the Fed would have a difficult time implementing Option M. Explain why.

ANSWER –

The FFR is already near zero, and can not go below zero.

Question IV: Some quickies --

Part A: (4 points, 2 each)

What are the units of each of the following (example: nominal wage = \$/hr):

- (1) the real exchange rate *home goods / foreign good*
- (2) the aggregate price level *\$/ home good or unit of GDP (or consumption basket)*

Part B: (6 points, 2 each) The central bank changes the money supply by buying and selling bonds.

- (1) To decrease R , would the central bank buy or sell bonds? *BUY*
- (2) To appreciate E , would the central bank buy or sell bonds? *SELL*
- (3) To increase Y , would the central bank buy or see bonds? *BUY*

In answering, you can just match numbers with the word “buy” or “sell”.

Part C: (maybe not so quick) Assume that E moves automatically to keep $CA = 0$ and

$$C = 5 + 0.75(Y - T)$$

$$G = 10$$

$$I = 10$$

$$T = 0.$$

(a) (4 points) Calculate the equilibrium value of Y .

ANSWER –

$$Y = C + I + G + CA = C + I + G + 0$$

$$Y = 25 + .75*Y \text{ implies } .25*Y = 25 \text{ implies } Y = 4*25 = 100$$

(b) (2 points) Calculate the equilibrium value of C .

ANSWER –

$$C = 5 + .75*Y = 5 + .75*100 = 80$$

Part D: Lags in policy making. Answer true or false (2 points each)

- (1) It takes longer for the Fed to make monetary policy decisions than it takes Congress to make fiscal policy decisions. **False**
- (2) It takes longer for monetary policy actions to affect aggregate demand than it does for fiscal policy decisions. **True**
- (3) question deleted, it was badly worded.
- (4) It takes longer for monetary policy actions to affect output and employment than it does for them to affect inflation. **False**