

To get full credit on this quiz you must show your work and you must do your work neatly.

1. You are given the following information about an economy.

- Taxes, T , are autonomous and constant
- Transfers, TR , are autonomous and constant
- Investment spending, I , is autonomous and constant
- Government spending, G , is autonomous and constant
- Net Exports, $X - IM$, is autonomous and constant

You are also provided with this table of information where Y is real GDP and C is consumption spending.

Y	T	TR	C	I	G	$X - IM$
100	50	10	55	20	60	10
400	50	10	280	20	60	10

- a. (2 points) Examine the given data and based on that data answer the following questions by circling your answer.
- This economy has a trade [deficit, surplus].
 - This economy has [positive, negative, zero] capital inflows.
 - This economy's government is operating with a [balanced budget, budget deficit, budget surplus].
 - This economy's private saving is a [positive, negative] number when Y , or real GDP, is equal to 100.

Answer:

i. surplus: since $X - IM$ is a positive number this indicates that the economy has a trade surplus

ii. negative: when an economy has net exports that are positive ($X - IM > 0$) then it has negative capital inflows ($IM - X < 0$)

iii. budget deficit; $G - (T - TR) > 0$ indicating that the economy is operating with a budget deficit since government spending exceeds net tax revenue

iv. positive: here are two ways to get to this answer.

Method I: $Y = C + Sp + (T - TR)$

$$100 = 55 + Sp + 40$$

$$Sp = 5$$

Method II: $Sp = -a + (1 - b)(Y - (T - TR))$

Once you find the consumption function you will know the values for "a" and "b":

$$Sp = -10 + .25(Y - (T - TR))$$

$$Sp = -10 + .25(100 - 40)$$

$$Sp = -10 + 15 = 5$$

- b. (2 points) From the given information find the consumption function. Write the consumption function as a function of real GDP, Y. Show all your work for full credit.

Answer:

$$MPC = \Delta C / \Delta(Y - (T - TR))$$

$$\text{When } C = 55, (Y - (T - TR)) = 60$$

$$\text{When } C = 280, Y - (T - TR) = 360$$

$$\text{Thus, } \Delta C = 225 \text{ and } \Delta(Y - (T - TR)) = 300$$

$$MPC = 225 / 300 = .75$$

$$C = a + b(Y - (T - TR))$$

$$C = a + .75(Y - (T - TR))$$

Use one of our known $(Y - (T - TR), C)$ points to find the value of "a":

$$55 = a + .75(60)$$

$$a = 10$$

$C = 10 + .75(Y - (T - TR))$ this equation expresses Consumption as a function of disposable income. Use this equation to get the Sp function for (a-part iv):

$$Sp = -10 + .25(Y - (T - TR))$$

$$C = 10 + .75(Y - 40)$$

$C = .75Y - 20$ this equation expresses Consumption as a function of real GDP. This is the equation you need to provide for this question.

- c. (2 points) Given the above information, what is the equilibrium level of real GDP for this economy? Show your work to get full credit for this question.

Answer:

$$Y = AE \text{ in equilibrium}$$

$$Y = C + I + G + (X - IM)$$

$$Y = .75Y - 20 + 20 + 60 + 10$$

$$.25Y = 70$$

$$Ye = 280$$

- d. (1 point) Suppose the full employment level of real GDP is equal to 320. Given the above information, suppose the government wishes to use government spending to reach the full employment level of real GDP. What must the new level of government spending, G' , be? Show your work to get full credit for this question.

Answer:

Two methods:

Method I: using the multiplier

$$\Delta Y = 320 - 280 = 40$$

$$\Delta Y = (1/(1 - b)) \Delta G$$

$$\Delta Y = (1/.25) \Delta G$$

$$40 = 4(\Delta G)$$

$$\Delta G = 10$$

$$\text{Therefore } G' = G + \Delta G = 60 + 10 = 70$$

Method II:

$Y' = AE'$ in equilibrium

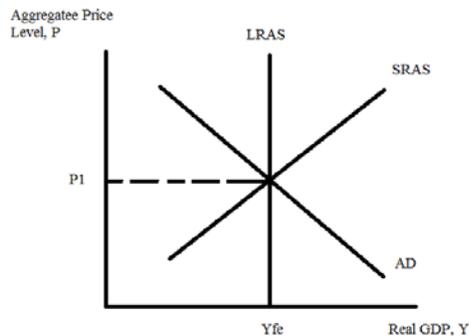
$320 = (.75Y' - 20) + 20 + G' + 10$

$320 = (.75)(320) + G' + 10$

$320 = 250 + G'$

$G' = 70$

2. Consider an economy described by the following diagram where AD is the aggregate demand curve, SRAS is the short run aggregate supply curve, LRAS is the long run aggregate supply curve, and Y_{fe} is the full employment level of real GDP.



- a. (1 point) Suppose business confidence increases. In the short run this will cause (circle your answer):
- [A movement along, A shift of] the aggregate demand curve.
 - [An increase, A decrease] in the aggregate price level relative to P_1 .
 - An economic [contraction, expansion].

Answer:

- A shift of
- An increase
- expansion

- b. (1 point) Given (a), what do you predict about this economy in the long-run? Assume no government policy intervention.
- The aggregate price level will _____ relative to P_1 .
 - The aggregate level of production will be [greater than, less than, equal to] the full employment level of real GDP.
 - The nominal wage will _____.

Answer:

- increase
- equal to
- increase

- c. (1 point) Suppose business confidence increases at the same time that commodity prices decrease. In the short run, what do you predict? Write a clear answer that includes your

prediction about the effect of these changes on the AD/AS Model and the impact on the level of real GDP and the aggregate price level relative to their initial levels.

Answer:

An increase in business confidence will shift the AD curve to the right in the short run. A decrease in commodity prices will shift the SRAS curve to the right in the short run. With certainty real GDP or Y will increase to a level greater than Y_{fe} in the short run. The impact on the aggregate price level is indeterminate in the short run: P may increase relative to P_1 , decrease relative to P_1 or stay equal to P_1 .