

MACROECONOMICS 042EC

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# Practice on Unit 2 (part 1)

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# Exercise 1

- What is the interpretation of the ZZ curve?
- Explain how would the drawing of the ZZ curve change under the following hypotheses:
  - Investment spending is exogenous
  - Investment spending is endogenous and depends on income and interest rate

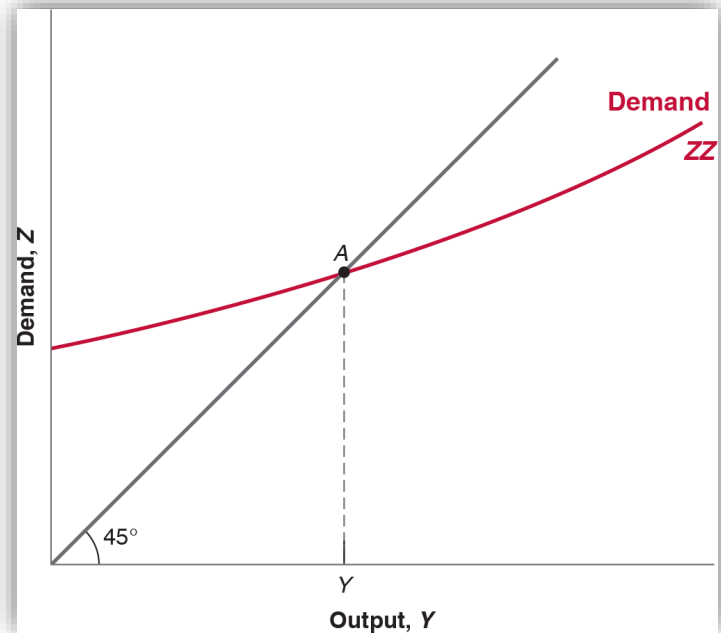
$$ZZ = C(Y - T) + \bar{I} + G$$

$$ZZ = \underset{+}{C}(Y - T) + \underset{+}{I}(Y, i) + G$$

$$ZZ = [c_0 + c_1(Y - T)] + \bar{I} + G$$

$$ZZ = [c_0 + c_1(Y - T)] + (d_0 + d_1Y - d_2i) + G$$

- Assuming linear consumption and investment spending, compute the economic multiplier under both of the previous hypotheses.



$$Y = [c_0 + c_1(Y - T)] + (d_0 + d_1Y - d_2i) + G \quad Y = \frac{1}{1 - (c_1 + d_1)} (c_0 + d_0 - c_1T + G) - \frac{d_2}{1 - (c_1 + d_1)} i$$

## Exercise 2: Deficit reduction: good or bad for investment?

- **The claim is: given  $I = S + (T-G)$ , an increase in  $T$  by one unit would increase  $I$  (and in turn  $Y$ ).**
- Is this correct?
- Tip: start from  $I = S + (T - G)$ , assume  $G=0$ 
  - Assume linear function for consumption, and exogenous investment (basically, ignore LM)
- Suppose  $T$  increases by one.
  - How does  $I$  change if  $T$  increases by 1 unit? It depends on  $S$ : if  $S$  remains constant,  $I$  increases.
  - Does  $S$  remain constant when  $T$  increases by 1 unit?

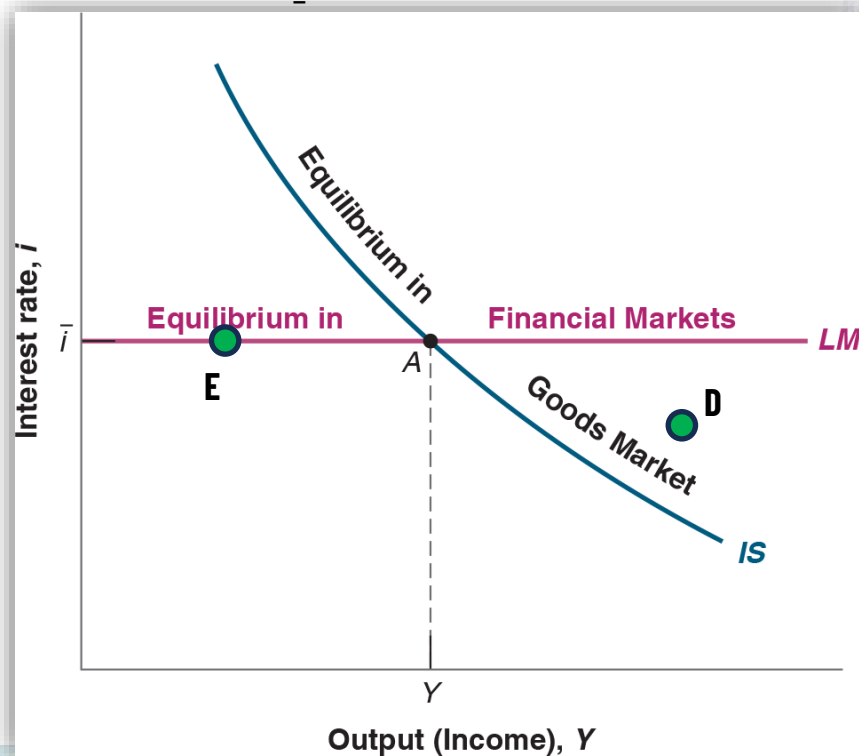


## Exercise 3

$$IS: Y = C(Y - T) + \underbrace{I(Y, i - \pi^e + x)}_{(-)} + G$$

$$LM: \frac{M}{P} = YL(\bar{i} - \pi^e) \quad \text{drawn as } i = \bar{i}$$

- How would you characterize an economy where GDP and interest rates are such as in point D?
- How would you characterize an economy where GDP and interest rates are such as in point E?





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