

# ECON 3560/5040

## Quiz #8 (Answers)

Last Name: \_\_\_\_\_, First Name: \_\_\_\_\_

(1) [14 points] **The IS-LM Model**

Assume the following model of the closed economy, with the price level fixed at 1.0:

$$C = 0.5(Y - T)$$

$$T = 1,000$$

$$I = 1,500 - 250r$$

$$G = 1,500$$

$$M^d/P = 0.5Y - 500r$$

$$M^s = 1,000$$

- (a) [4 points] Write a numerical formula for the *IS* curve, showing  $Y$  as a function of  $r$  alone [Hint: Substitute out  $C, I, G$ , and  $T$ ]

$$IS : Y = -500r + 5000$$

- (b) [4 points] Write a numerical formula for the *LM* curve, showing  $Y$  as a function of  $r$  alone [Hint: Substitute out  $M/P$ ]

$$LM : Y = 1000r + 2000$$

(c) [3 points] What are the short-run equilibrium values of  $Y$ ,  $r$ , and national saving?

$$Y = 4000, r = 2, S = 1000$$

(d) [3 points] You are the chief economic adviser in this hypothetical economy. Do you believe that fiscal policy is more potent than monetary policy? Briefly discuss [Hint: Use the slope of  $IS$  and  $LM$  curve in (a) and (b)]

*Since the  $IS$  curve is steeper than the  $LM$  curve, fiscal policy is relatively more effective than monetary policy*

(2) [6 points] **IS-LM in the Long Run**

Assume that the economy is initially in short-run equilibrium at a level of output above the natural rate. Use the  $IS - LM$  model to illustrate graphically how the levels of income ( $Y$ ) and interest rate ( $r$ ) change as the economy returns to the natural rate of output ( $\bar{Y}$ ) in the long run

*Prices increase reducing real money balances, resulting in lower output and a higher interest rate*