

Do not write your name on the assignment. Write your name only on the back of this sheet of paper and staple your answers on the front of this sheet of paper. The computer work of the laboratory should not have your name anywhere I can easily see it. Your name should only appear on the first page of the Excel file which does not have any answers on it. It should be e-mailed to me at [wcsaplar@bethanywv.edu](mailto:wcsaplar@bethanywv.edu) when the laboratory ends. Failure to follow these directions will cost you 1 point on the assignment.

**The first part of this assignment will be done as a homework assignment and handed in at the end of the laboratory with the written part of the answers to the laboratory. The second half of this will be done during the laboratory.**

Homework questions:

1) Suppose that the economy is described by the following equations:

$$C = 100 + 0.8(Y-T)$$

$$I = 20 + 0.2Y - 1000R$$

$$G = \alpha_4$$

$$X - M = 300 - 0.5Y$$

$$T = 125.$$

A) (20 points) Derive the autonomous expenditure multiplier by finding  $dY/d\alpha_4$ .

B) (10 points) Derive the equation for the IS curve.

2) (20 points) If investment is sensitive to interest rates, then what would be true about the value of  $\gamma_2$ ? Explain your logic. How would this affect the slope of the IS curve? Explain your logic.

3) (20 points) One convenient property of the IS/LM diagram is that fiscal and monetary policies move different curves. Explain why this statement is true.

Laboratory questions:

4) (15 points) For both data sets on Page #2 of the lab, determine if there is a problem with heteroscedasticity. Show all work and briefly explain what you did.

5) (15 points) For both data sets on Page #2 of the lab, determine if there is a problem with autocorrelation. Show all work and briefly explain what you did.