

Place your name on the back of this sheet of paper and nowhere else. Staple your answers face up on the front of this sheet of paper. Failure to follow these directions will cost you 10 points. Your assignment will be typed, except graphs can be drawn by hand and mathematical equations can be done by hand. Turn in the Excel file via Canvas. Place your name on an otherwise blank page of the Excel file. Failure to type this assignment will cost you 10 points. If you use double-sided printing or print on the back of scrap paper, I will give you one additional point.

All questions except for #4 should be done before class. You will hand all of the answers in together.

1) (10 points each) Answer each of the following in separate paragraphs. For each of the following, use Table #3 or Table #4 from Chapter III of the supplemental text to determine what the economy might be doing in the future and the probability of that occurring. Explain why you chose that table, why you chose the half of the table you chose, and why you chose the column. So your answer should be something like, but better than, "There is a 40% probability that the economy will be in a recession. I chose Table #3 by guessing. I chose..."

- A) Stock prices rose for four months during a recession.
- B) Average duration of unemployment rose for five months during a boom.
- C) The money supply increased 0.4% in one month during a recession.
- D) Housing permits fall 2% during a boom.

2) (10 points) Using Table #3, what value would you give for the MCD for "manufacturing and trade sales/inventories"? Explain how you reached that conclusion.

3) (10 points) What is a "diffusion index"? What does the change in it tell us? Briefly explain your logic.

4) Suppose the economy is described by  $C_t = 100 + .8((Y_t + Y_{t-1})/2 - T_t)$ ,  $T_t = .2Y_t$ ,  $I_t = \frac{1}{4}Y_t$ ,  $G = 800$ ,  $NX_t = 200 - .09Y_t$ . Use these equations to answer this question.

A) (25 points) Use the system of equations to solve for  $Y$  as a function of exogenous variable(s) and parameters.

B) (15 points) Put the equations into an Excel spreadsheet. Use it to find the GDP for the next 60 years if last year's GDP was \$3400. Use the Excel spreadsheet to find both the long-run government spending multiplier and the short-run government spending multiplier if government spending went up by \$10. Do this for both temporary and permanent changes of \$10.