

Write your name on the cover of the test booklet and nowhere else. Enclose this sheet with the booklet. The Excel file will be handed in via Canvas. Your name will only appear on a page of the file that has nothing else on it. Failure to follow these directions will cost you 1 point. The test has 100 points (to be scaled up to 170 points) and is scheduled to take 50 minutes (but you can take the full 2 hours.) Therefore, expect to spend 1 minute for every 2 points. For example, a 10-point question should take 5 minutes.

1) Answer **ALL** parts of this question. **Type all explanations in a box on the spread sheet.**

- A) (4 points) Run a regression using the data in the tab Q1 in the [Excel file](#) to predict the sales of pies, Q_{pies} as a function of price of pies, price of cakes, price of donuts, and income.
- B) (2 points) Use the results to predict the sales of pies if the person's income is \$40,000.00, the price of a pie is \$10/pie, the price of a cake is \$15/cake, and the price of a donut is \$2/donut.
- C) (6 points) Do you think the overall results are good? Explain your answer.
- D) (6 points) Do the test for multi-colinearity. Is there a problem with it? Explain how you reached the conclusion. **If there is multi-colinearity**, then explain how you solve the problem without actually doing it. Explain why you chose to do that. **If there is not a problem with multi-colinearity**, then for each variable, tell me whether or not it is significant and how you reached that conclusion.

2) Answer **ALL** parts of this question. **Type all explanations in a box on the spread sheet.**

- A) (4 points) Run a regression using the data in the tab Q2 in the [Excel file](#) to predict the debt as a function of income.
- B) (6 points) Do the quick tests for both auto-correlation and heteroscedasticity. For both of them, tell me if you think there is a problem with it and the logic you used to reach that conclusion.
- C) (10 points) **If you find both auto-correlation and heteroscedasticity**, then do the formal test for heteroscedasticity. Explain what you did, why you did that, and how you reached your conclusion as to whether or not it exists. **If you find auto-correlation but not heteroscedasticity**, then tell me by looking at the graph whether or not the method I proposed for solving the problem would work. Explain your logic. **If you find heteroscedasticity but not auto-correlation**, then do the formal test for heteroscedasticity. Explain what you did, why you did that, and how you reached your conclusion as to whether or not it exists. **If you find neither, check again because one does exist.**

3) (10 points) Answer EITHER Part A OR Part B.

- A) Assuming the efficiency wage model is correct, what will happen to the FE and LRAS lines when the population increases? Explain your logic.
- B) Without using a graph, explain why firms may not lower wages even though there is an excess supply of potential employees to hire.

4) (16 points) Both the Neo-Keynesians and the Neo-Classical School predict the cyclicity of a variable wrong for ONE of those schools, use a graph to explain how they reached their conclusion of the cyclicity. Explain how they explain the model contradicting the data.

5) (14 points) Answer EITHER Part A OR Part B.

- A) Suppose the actual inflation is 200% and people expect that it will stay there. A new government comes in and says they will lower the inflation rate to 20% by having the money supply only increase by

20%. Draw the SRPC/LRPC diagram for this situation assuming people believe them and they actually have the money supply grow 40%. Explain why the curve(s) moved as drawn, and how you found the initial point and the point the economy ends at. Also give an estimate of the inflation rate and explain how you got it.

B) Suppose the inflation rate is currently 5% and the unemployment rate is 7%. The government announces they will fight the inflation by having the money supply only grow 2% and people believe them. Draw the SRPC/LRPC diagram for this situation. Explain why the curve(s) moved as drawn, and how you found the initial point and the point the economy ends at.

6) (12 points) Answer EITHER Part A OR Part B.

A) Germany extends unemployment benefits if you go back for training and or education. Do you think that will increase or decrease the natural rate of unemployment? Explain your logic.

B) The unemployment rate has been below 5% for more than two years now. What do you think that has done to the natural rate of unemployment? Explain your logic.

7) (10 points) Answer EITHER Part A OR Part B.

A) Suppose that at the start of the year, the CPI was 900 and people expected 5% inflation. At the end of the year, the CPI was 918. Calculate the inflation rate showing all work. Who gains by this inflation? Explain your logic.

B) If a central bank president's contract says that they must keep the inflation rate below 5%, would that make it easier or harder for the central bank to lower an inflation rate which is approaching 5%? Explain your logic.