

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 Moodle. 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) (16 points) Use the data in the tab “Q1” of the [Excel file](#) to forecast quantity as a function of year, price, and income. Check for multi-collinearity of the independent variables. Is it acceptable to leave all three variables in? Why or why not? **If it is not acceptable**, re-run the regression without one variable and tell me why you left that variable out. **If it is acceptable**, then tell me how many apples you would expect to sell to a person with an income of \$50,000 if you charged \$10/apple, \$5/pear, and \$6/orange. Given the results, are apples and oranges substitutes, likely substitutes, likely unrelated, likely complements, or complements? Explain your logic.

2) (18 points) Use the data in the sheet “Q2” on the [Excel file](#) to run a regression to predict sales as a function of income and price. Do the quick checks for heteroscedasticity and autocorrelation. Explain how you know whether or not you had each problem. **If that both problems exist or that there is a problem with autocorrelation**, then run a regression which would adjust for that problem. Explain what you did. **If the problem is heteroscedasticity**, then do the formal test for it and explain what you did.

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

A) In France, it is very difficult to fire somebody who has worked for your company for more than a year. What will this do to the natural rate of unemployment, a.k.a. the unemployment rate at full employment? Explain your logic.

B) If a government wants to fight high inflation, then they need credibility. What can be done to get credibility? Explain how that will give credibility.

4) (14 points) Illustrate the effects of EITHER the event in Part A OR the event in Part B on the supply and demand for US\$ vs. €. Explain why the curve(s) moved as drawn. Does the euro (€) appreciate, depreciate, revalue, or devalue? Explain your logic.

A) The German prices increase.

B) The interest rates in the USA decrease.

5) (18 points) Answer EITHER Part A OR Part B.

A) Draw the supply and demand for the US\$ vs. the Mexican peso. Place a fixed exchange rate such that the peso is overvalued. How can you tell the peso is overvalued and not the US\$? If the US government is the body who is guaranteeing the exchange rate, then are they being forced to buy US\$, sell US\$, buy peso, and/or sell peso? Explain your logic.

B) Draw the graph of the fundamental exchange rate vs. the money supply. Explain why it takes its shape and explain its implications.

6) (24 points) Draw the Augmented SRPC/LRPC diagram and the SRAS/LRAS/AD diagram such that expected inflation is 4% and the economy is at full employment. Illustrate the effects of EITHER the event in Part A OR the event in Part B. Explain how you know your graphs show 4% expected inflation and full employment. Explain why the curve(s) moved as drawn and how you found the new points.

A) The Fed increases the money supply by 3%. People’s expectations change to expecting a 5% increase in the money supply.

B) The Fed increases the money supply by 7%. People’s expectations change to expecting a 5% increase in the money supply.