

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 240 points (to be scaled down to 200 points) and is scheduled to take 120 minutes (2 hours.) Therefore, expect to spend 1 minute for every 2 points. For example, a 10-point question should take 5 minutes.

1) (12 points) Answer EITHER Part A OR Part B.

- A) What are the costs of high, but fully anticipated inflation? Explain your logic.
- B) How can we use PPP to determine if the exchange rate is over-valued or under-valued?

2) (12 points) Answer EITHER Part A OR Part B.

- A) What is *seignorage* and why might developing countries use it?
- B) When we had the formula for the growth rate of the debt-to-GDP ratio, we had $\Delta B - (B/Y) * \% \Delta Y$. Why do we subtract $(B/Y) * \% \Delta Y$? Explain your logic.

3) (14 points) Answer EITHER Part A OR Part B.

A) Table 4 of your supplemental text is entitled **Proportions of Occurrences In Which Trends of Various MAGNITUDES Involved Cyclical Reversals of Business Activity**. Part of the table is recreated below. During October of 2009, M1 increased 0.8%. What would that tell you? Explain your logic.

Increasing Trends During Cyclical Contractions	Percentage Increase Larger Than							
	0.0	0.3	0.5	1.0	3.0	5.0	10.0	20.0
M1 Money Supply	0.25	0.43	0.47	0.69	1.00	1.00	1.00	1.00

B) Explain what *statistical adequacy* means and why a variable needs *statistical adequacy* to be a good indicator used in forecasting.

4) (16 points) Answer EITHER Part A OR Part B.

- A) Explain how when the Fed buys \$10,000 bond, it will eventually result in the money supply increasing by more than \$10,000. How much will it increase if the currency-deposit ratio is .4, and the reserve-deposit ratio is .1? Show all work and briefly explain both parts.
- B) Suppose the government deficit is \$12 billion, primary deficit is \$5 billion, and the full employment deficit is \$13 billion. How much interest is the government paying? Is the economy in a recession or a boom? Explain your logic for both parts.

5) (20 points) Answer EITHER Part A OR Part B.

- A) Illustrate an increase in prices in Japan on the supply and demand for the US\$ vs the ¥. Explain why the curve(s) moved as drawn and which country's currency appreciated.
- B) Draw the Short-run Phillips/Long-run Phillips Curve diagram for a situation where the expected inflation rate is 6% and the actual unemployment rate is 7%. Draw an unexpected increase in government spending when people expected the inflation rate to stay at 6%. Explain why the curve(s) moved as drawn and how you found the old and new points the economy was at.

6) (22 points) For EITHER the Neo-Classical (Real Business Cycle) OR the Neo-Keynesian explanation of the business cycle. What do they feel about the cyclicalities of inflation and productivity? Explain how they reach those conclusions for both variables. Which one does not agree with “generally accepted statistics”? Explain how they explain the apparent contradiction. You do NOT need to draw any graphs.

7) (24 points) Answer EITHER Part A OR Part B.

A) Use the spreadsheet labeled “Simple” in the Excel file [final.xlsx](#) to do the *same value, same change, same percent change, 5-period moving average*, and 3-period weighted moving average to predict this student’s grades. Do NOT plot them.

B) Using the spreadsheet labeled “CPI” in the Excel file [final.xlsx](#), calculate the Laspeyres’s style price index for all years using 2002 as your base year. Calculate the inflation rate for all of the years you can. Calculate the Paasche style price index for all years using 2002 as your base year. As we showed in the lab, the choice of base year is very important. One of the years would make a very bad choice. Which year is it and why would it make a bad choice?

8) (32 points) Answer EITHER Part A OR Part B.

A) Use the data on Sheet “Multi” on the file [final.xlsx](#) to run a regression to predict imports as a function of the *US Price*, *Chinese Price*, the *Exchange Rate (e)*, and the *US GDP*. Are the results as a whole good? Explain your logic. Which variables are significant? Explain your logic. Test for multicollinearity. **If you find it**, tell me how you know you have it. Correct it and tell me why you did what you did. **If you do not find it**, predict what the level of imports would be if the US Price was \$122/unit, the Chinese price was \$116/unit, the exchange rate is 5 renminbi/\$, and the US GDP is \$1,100.

B) Use the data on Sheet “Hetero” on [final.xlsx](#) to run a regression which would predict the *Sales* based upon *Price*. Do the visual test for heteroscedasticity. State what you did. **If there is heteroscedasticity**, do the formal test and explain your results. Use 1.79 as your cutoff. **If it does NOT exist**, then calculate on the spreadsheet what you would expect *Sales* to be if *Price* is \$20/unit. Would you rely on this number? Explain your logic.

9) (40 points) Answer EITHER Part A OR Part B.

A) EITHER seasonally adjust the data on spreadsheet “Seasonally” on [final.xlsx](#) OR forecast through January of 2010 using the same data.

B) Suppose $C_t = 200 + 0.6\{\frac{1}{3}(Y_t + Y_{t-1} + Y_{t-2}) - T_t\}$, $T_t = Y_t/6$, $I_t = 0.5Y_t$, $G_t = 500$, and $NX_t = 400 - 0.1Y_t$. Find GDP as a function of lagged and exogenous variables. Use Sheet 9B to forecast for 50 years assuming that GDP was 8,000 for each of the past two years. Plot the GDP over time. What type of pattern is that? Explain your logic. What is the short-run government spending multiplier? Explain your logic.

10) (48 points) Answer EITHER Part A OR Part B.

A) Draw the IS/LM/FE diagram, SRAS/LRAS/AD diagram, and real MS/real MD diagrams starting with a high unemployment rate. Illustrate the effect of the Fed’s buying bonds on the open market. Explain why the curve(s) moved as drawn. What happens to interest rates, price level, and real GDP? Assume that neutrality of money does not hold.

B) Draw the IS/LM/FE diagram, SRAS/LRAS/AD diagram, and real MS/real MD diagrams starting with unemployment rate at full employment. Illustrate the effect of the Canadian economy improving. Explain why the curve(s) moved as drawn. What happens to interest rates, price level, and real GDP?