

Write your name on the cover of the test booklet and on an otherwise blank page of the Excel file and nowhere else. Enclose this sheet with the booklet. Upload the Excel file to Moodle. 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. Therefore, expect to spend 1 minute for every 2 points. For example, a 14-point question should take 7 minutes. I can give some extra time, but not much.

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

A) Explain why a high interest rate causes the debt-GDP ratio to grow. Does the equation for the growth rate of the debt-GDP ratio have the growth rate of real or nominal GDP in it? Why?

B) Explain seigniorage. Why might it be a good idea for some developing countries to do a little bit of it?

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

A) Is the *Index of 500 Common Stocks Prices* a leading, coincident, or lagging indicator? Explain your logic. Is the *Average Duration of Unemployment* a leading, coincident, or lagging indicator? Explain your logic.

B) In the table labeled, *Proportions of Occurrences in Which Trends of Various DURATIONS Involved Cyclical Reversals of Business Activity*, the farthest right columns of numbers are labeled, *Increasing Trends During Cyclical Contractions* and below that it says, *Months of Duration*. It has the following data:

Months of Duration	1	2	3	4	5	6	7	8
New Orders, Non-Defense Capital Goods	.33	.41	.45	.47	.56	.69	.82	.82

If you saw that New Orders, Non-Defense Capital Goods went up for 5 months straight, then would you expect that a recession is ending, a recession is beginning, a boom is ending, a boom is beginning, or is more information needed? Explain your logic.

3) (12 points) Answer EITHER Part A OR Part B.

A) Why have business cycles become longer and less severe since World War II?

B) For EITHER economic significance OR statistical adequacy, state what that means for a variable. Explain why a variable must have that to be a good indicator.

4) (12 points) Answer EITHER Part A OR Part B.

A) If the tax rates are as given in the table to the right, then what are the marginal and average tax rates of a person who is earning \$50,000. Show all work.

B) If the price level in the USA is  $P = \$120/Q$ , the price level in Britain is  $P_{For} = £90/Q_{for}$ , and the nominal exchange rate is £0.8/\$, then what is the real exchange rate? Show all work and briefly explain how you did it.

Income	Tax Rate
\$0 - 10,000	0%
\$10,000 - 45,000	20%
\$45,000 - 100,000	30%
> \$100,000	40%

5) (12 points) Answer EITHER Part A OR Part B.

A) We have assumed the Fed can completely control the money supply. Explain why this is false by referring to the money multiplier process.

B) Most macroeconomists feel that government spending should be kept to a minimum. Explain their logic.

6) (14 points) The data on the [Excel page](#) called “Steelers” has their actual scores for this season. Use that data to predict the Steelers’ score for weeks 14 - 16 and the playoff games using the *same value, same change, same percent change (a.k.a. same ratio), 10-period moving average, AND 5-period weighted moving average*. Do ALL five predictions for the remaining games assuming they get into the Super Bowl. (But we know they will be the top seeded Wild Card which means they will play the worst division champion. Since that will be the Patriots, Pittsburgh will lose the Wild Card game. However,

pretend they will get into the Super Bowl.)

7) (16 points) Answer EITHER Part A OR Part B.

A) Write a balance sheet for a bank with only reserves, loans, deposits, and equities. Start with the bank having no excess reserves. Illustrate on it what happens when \$100 is deposited. How much can the bank loan out? Briefly explain the changes and how you calculated the amount they could loan out.

B) Use the supply and demand for currency on the foreign exchange market to prove that the Fed cannot control both the interest rates and the exchange rate. Explain the logic.

8) (16 points) Answer EITHER Part A OR Part B.

A) All economic theories hold at some times, but not others. Do you feel that the Keynesian or Neo-Classical, a.k.a. Rational Expectations model holds best for the USA at the present? Explain your logic.

B) Explain the Misperceptions theory of high unemployment using the SRAS/LRAS/AD diagram with the appropriate SRAS curve for that model.

9) (20 points) For ONE of the items below, explain how they can cause sticky prices. Explain a potential problem with the argument.

A) Efficiency wage.

B) Imperfect competition.

10) (26 points) Answer EITHER Part A OR Part B using the Excel ® file called [final.xls](#).

A) Use the data on the sheet “10A” of the Excel ® spreadsheet to run a regression to determine the function which predicts the quantity of purchases as a function of time, price, and income. Do the quick tests for multi-colinearity, autocorrelation, **and** heteroscedasticity. If done correctly, you should find exactly one problem. **If you find multi-colinearity**, then solve the problem and re-run the regression.

Explain how you know the problem existed and why your method solved it. **If you found autocorrelation**, then solve the problem and re-run the regression. Explain how you know the problem existed and why your method solved it. **If you find heteroscedasticity**, then explain how you know there is a problem and write the equation which would have resulted if there were no problems with the regression.

B) Use the data on the sheet “10B” of the Excel ® spreadsheet to calculate the Laspeyres Price Index for all of the years with 2001 as the base year. Calculate the inflation rate for the years you can calculate it for. One year has deflation. Which good causes that? Explain your logic.

11) (40 points) Answer EITHER Part A OR Part B using the Excel ® file called [final.xls](#).

A) Use the data on the sheet “11A” on the Excel ® file to find the seasonally adjusted value of sales if the sales in November of 2003 were 600. If the sales in 2004 were 9000, then what would you expect sales to have been in July of 2004? Forecast the sales for June of 2001. Show all calculations on the spreadsheet.

B) Suppose the economy is described by  $C_t = 0.3(Y_t + Y_{t-1} + Y_{t-2})$ ,  $I_t = 0.1Y_t$ ,  $NX_t = 300 - 0.15Y_t$ , and  $G_t = 1200$ . Find the current level of GDP as a function of government spending and lagged GDP. Show all work. Put the work into the Excel ® file on page 11B and use it to forecast GDP for 40 more years. Does GDP in this simulation act like monotonic convergence, monotonic divergence, damped oscillation (oscillating convergence), or amplified oscillation?

12) (48 points) Illustrate EITHER the event in Part A OR the event in Part B on the LRAS/SRAS/AD diagram, IS/LM/FE diagram, and the supply and demand for the US\$ on the foreign exchange market. Explain why the curve(s) moved as drawn. Use the SAME event for ALL THREE diagrams and only show the short-run effects.

A) The Fed buys bonds on the open market.

B) The Canadian economy improves.