

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 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 10-point question should take 5 minutes.

This table is from Table 4, “Proportion of Occurrences in Which Trends of Various MAGNITUDES Involve Cyclical Reversals of Business Activities.” The first columns are for “Decreasing Trends During Cyclical Expansions - Percent Decrease Larger Than” and that later columns are for “Increasing Trends During Cyclical Contractions - Percent Increase Larger Than”. It is for composite of S-T interest rates..

0.0	0.3	0.5	1.0	3.0	5.0	10	20	0.0	0.3	0.5	1.0	3.0	5.0	10	20
.20	.21	.22	.26	.42	.48	.67	.71	.32	.32	.32	.33	.43	.67	.67	1.0

1) (14 points) Answer EITHER Part A OR Part B.

A) Suppose that The composite of S-T interest rates increases 1.4% during a recession. Determine the probability that the economy is changing direction. Briefly tell me how you figured out which half of the table to use and which column to use. Also tell me if the probability you gave me is for entering a recession or a boom.

B) What is meant by “currency”? Why should a variable have that quality if it is going to be a good variable to use for forecasting.

2) (14 points) For EITHER *rate of change of consumer debt* OR *ratio of consumer debt to personal income*, is it procyclical, acyclical, or counter-cyclical? Explain your logic. Is it leading, lagging, or roughly coincident? Explain your logic.

3) (16 points) Answer ONE of the following parts.

A) I do not know why a government would want to do this, but what could the government do to increase the unemployment rate at full-employment, i.e. the NAIRU unemployment rate? Explain why that would have that effect.

B) Argentina has had inflation around 200% for a year. Should the government try to quickly or gradually lower the inflation rate? Explain your logic

C) What variable does the Neo-Keynesian School predict the cyclicalities wrong? How do they explain the contradiction?

4) (18 points) Answer ONE of the following three parts.

A) What happens to the Fed’s balance sheet when a bank borrows \$100,000 from the Fed? Explain the entry(ies). What happens to the money supply on that step? Explain your logic.

B) Explain how a country with a budget deficit could still have the debt/GDP ratio decrease. Explain how that could happen. And why it would cause the ratio to decrease. (Hint: What else is in the equation which starts out $\Delta(B/Y) = \dots$?)

C) A couple of years ago, because a few banks got into financial trouble, other banks started keeping more excess reserves. What did that do to the monetary base, money multiplier, and money supply? Briefly explain your answers.

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

- A) Explain Ricardian Equivalence. Why might it hold even if the current generation does not pay the debt?
 B) Explain Ricardian Equivalence. Why does my textbook for Economic Development say it does not hold for the poorest countries?

6) (22 points) Answer EITHER Part A OR Part B.

A) Draw the S/D for the US\$ on the foreign exchange market. You can choose the other currency. Illustrate the effects of an increase in interest rates in the USA. Explain why the curve(s) moved as drawn. Which currency appreciated and which depreciated? Explain your logic.

B) Given just the criterion of minimizing distortions from taxes, which is a better tax, a sales tax on food or a sales tax on music downloads? Explain your logic only citing the one criterion. Use the same criterion to determine if an income tax or a head tax would be better.

7) (26 points) Suppose that the unemployment rate is 4% and the expected inflation rate is 3% , the central bank announces they will increase the money supply 2% and people believe it. Draw the effects of this on EITHER the Rational Expectations modified version of the SRAS/LRAS/AD OR the Expectations Augmented Phillips Curve. Explain why the curve(s) moved, how you found the initial point and the final point.

8) (26 points) Answer EITHER Part A OR Part B.

A) Use the IS/LM/FE diagram to explain the neutrality of money. Which school of thought believes it holds in the short-run?

B) Draw an IS/LM/FE diagram with high unemployment. State how you know there is high unemployment. Illustrate how the economy will get back to full employment if the government does nothing. Explain why the curve(s) moved as drawn. Which school of thought thinks this will take a long time?

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

A) Use the tab “Forecast” on the [Excel sheet](#) to seasonally adjust the data and to forecast until May 2025.

B) Use the tab, “Regression” to run a regression to predict sales. Do the **quick tests** for autocorrelation, multi-collinearity, **and** heteroscedasticity. Tell me how you reached the conclusions of if they exist. **If you find none of them**, you have a problem. **If you find only multi-collinearity or autocorrelation**, correct for it and explain why you did what you did. **If you find only heteroscedasticity**, do the formal test. **If you find autocorrelation and one or more other problems**, solve the problem of autocorrelation and explain why you did what you did. **If you find multi-collinearity and heteroscedasticity**, solve the problem of multi-collinearity and explain why you did what you did.

10) (44 points) Answer EITHER Part A OR Part B.

A) Use the tab “CPI” on the [Excel sheet](#) to calculate the Laspeyres Price Index, Paasche Index and the PCE Index using 2015 as the base year. Looking just at the data, was 2015 a good year to use as a base year? Explain your logic. Use the tab “Simple” to forecast the Steelers’ margin of victory using same value, same change, same percent change, three-period moving average, and three-period weighted moving average.

B) Suppose consumption is $0.75 \cdot [(Y_t + Y_{t-1} + Y_{t-2})/3 - T_t]$, taxes are $0.4 \cdot Y_t$, investment is $0.6 \cdot Y_t$, government spending is 400, and net exports is $100 - 0.05 \cdot Y_t - 0.05 \cdot Y_{t-1}$. Use these equations to solve for GDP as a function of exogenous and lagged variables. Show all work. Use your results to put equations in the Excel sheet “Equations” and forecast for 30 periods assuming GDP was 1000 last year and 1000 two years ago. Find the size of the short-run and long-run government spending multipliers. Plot GDP over time. What pattern does that take? Explain your logic.