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) Suppose consumption is 80% of the average of this and last year's GDPs. Investment is 10% of last year's consumption. Government spending is $800. Exports are $400 and imports are 20% of this year's GDP.
A) (6 points) Write these equations.
B) (10 points) Solve the equations for Y_t as a function of exogenous variables and lagged values of GDP. Show all work.
C) (8 points) If GDP had been $1000 for several years, then have Excel calculate the levels of GDP for the next 40 years.
D) (10 points) Suppose the government spending goes up to $900. Use Excel to calculate the long-run government spending multiplier for a permanent change in government spending.

2) (10 points) For EITHER *Personal Income*, OR *Stock Prices*, determine if it is pro-cyclical, counter-cyclical, or acyclical. Explain your logic. Determine if the same variable is leading, roughly coincident, or lagging. Explain your logic.

3) (10 points) For EITHER *currency* OR *timing*, explain what it means and why a variable needs that to be a good indicator used in forecasting.

4) (10 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. If M1 decreased 2% in one month, what would that tell you? Explain your logic.

Decreasing Trends During Cyclical Expansions	*Percentage Decrease Larger Than*							
	0.0	0.3	0.5	1.0	3.0	5.0	10.0	20.0
M1 Money Supply	0.20	0.33	0.47	0.75	1.00	1.00	1.00	1.00

B) Table 3 of your supplemental text is entitled **Proportions of Occurrences In Which Trends of Various DURATIONS Involved Cyclical Reversals of Business Activity.** Part of the table is recreated below. If the manufacturing and trade sales increased for 6 months during a cyclical contraction, what would that tell you? Explain your logic.

Increasing Trends During Cyclical Contractions	*Months of Duration*							
	1	2	3	4	5	6	7	8
Manufacturing and Trade Sales	0.1	0.19	0.35	0.54	0.64	0.70	0.78	0.78

5) (36 points) Answer EITHER Part A OR Part B.
A) Illustrate an increase in the income tax rates on the LRAS/SRAS/AD, IS/LM/FE, and real MS/real MD diagrams. Assume that Ricardian Equivalence does NOT hold. Explain why the curve(s) moved as drawn. What happens to the price level, interest rates, and GDP?
B) Illustrate an increase in the expected inflation rate on the LRAS/SRAS/AD, IS/LM/FE, and real MS/real MD diagrams. Explain why the curve(s) moved as drawn. What happens to the price level, interest rates, and GDP?

Remember, the grad school fair is now until 5:00 in Commencement Hall.