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Fall 2003, Intermediate Macroeconomics, section 2

ECON 219 Mid-term exam I

Name:

General recommendations:

- Read questions thoroughly and answer each.
- Work individually.
- There are four pages.
- No documentation, cell phones, pagers, calculators and bathroom breaks.
- You have until 1:50 and can leave early, if you wish.

1. [35%] Here are some business cycle statistics for Brazil. All data has been deseasonalized (seasonally adjusted), then logarithms were taken, then cyclical components were obtained with the HP-filter.

Variable	SD%	Correl. of GNP with		
		x_{t-1}	x_t	x_{t+1}
GNP	2.73	.75	1.00	.75
Consumption	2.00	.68	.93	.61
Fixed investmt	7.70	.66	.88	.73
Employment	1.59	.37	.49	.49
Total hours	3.55	.42	.70	.74

(a) Define “total hours” and “employment.”

(b) Why do we adjust seasonally the data?

(c) What stylized facts do you see about the Brazilian business cycle?

(d) Remembering the stylized facts for the US, what strikes you as being different?

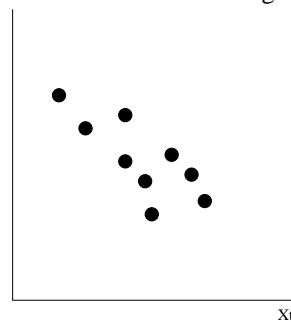
2. [40%] Circle the correct answer to each of the following questions. Remember that there can be several answers:

(a) A model economy has 7 relationships and 10 variables. How many variables are endogenous?

- i. 17;
- ii. 10;
- iii. 7;
- iv. 3.

(b) Say a scatter plot for a variable X_t and GDP looks like on the right. Then:

- i. the variable is procyclical;
- ii. the variable is countercyclical;
- iii. the variable is acyclical;
- iv. the variable is anticyclical.



- (c) As a share of GDP, consumption and investment represent about:
- i. $\frac{2}{3}$ and $\frac{1}{5}$;
 - ii. $\frac{1}{2}$ and $\frac{1}{5}$;
 - iii. $\frac{2}{3}$ and $\frac{1}{10}$;
 - iv. $\frac{1}{2}$ and $\frac{1}{10}$.
- (d) The consumption of durables is:
- i. countercyclical;
 - ii. procyclical;
 - iii. very volatile;
 - iv. very smooth.
- (e) When the wage increases, the substitution effect in the household's choices leads to:
- i. a decrease in consumption;
 - ii. an increase in consumption;
 - iii. a decrease in leisure;
 - iv. an increase in leisure.
- (f) When firms maximize profits:
- i. they sell as much as possible;
 - ii. the wage equals average labor productivity;
 - iii. the wage equals marginal labor productivity;
 - iv. business taxes must be zero.
3. [25%] Suppose that we are in a country that just got a large subsidy from abroad. The government decides to distribute this subsidy in a lump-sum fashion to firms and households, that is it gives the same amount to each household and each firm. What is the impact on labor supply and labor demand?

4. **[Bonus: 10%]** In the model economy that we have built so far, what can we say about unemployment? Why?