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Spring 2004, Intermediate Macroeconomics, section 1

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 12:15 and can leave early, if you wish.

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

		Correl. of GNP with		
Variable	SD%	x_{t-1}	x_t	x_{t+1}
GNP	4.66	.69	1.00	.69
Consumption	4.38	.31	.69	.75
Fixed investmt	15.13	.56	.83	.51
Employment	2.58	.48	.54	.25
CPI	10.29	-.69	-.67	-.50
GDP defl.	8.34	-.61	-.68	-.64

   (a) What is "GDP defl."? How can you compute it?

   (b) Why do we use the HP-filter?

(c) What stylized facts do you see about the Portuguese 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) Who dates business cycles in the United States?

      i. The Council of Economic Advisers;
      ii. the National Bureau of Economic Research;
      iii. the Bureau of Economic Analysis;
      iv. Economagic.

   (b) Why do we care that a series may lead the cycle?

      i. This is an indicator of where GDP is heading;
      ii. ultimately, we want the theory to match this;
      iii. its standard deviation is higher;
      iv. because it is then autocorrelated.

   (c) The production function is concave because:

      i. the firm is profit maximizing;
      ii. marginal returns are decreasing;
      iii. returns to scale are constant;
      iv. all inputs are essential.

(d) Imports are

   i. countercyclical;
   ii. procyclical;
   iii. very volatile;
   iv. very smooth.

(e) When the wage increases, the income 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) In a Pareto Optimum:

   i. it is impossible to find another optimum without making someone less happy;
   ii. it is impossible to find another optimum while making a majority less happy;
   iii. everyone has the best outcome possible;
   iv. the majority has the best outcome possible.

3. **[25%]** Assume we have an economy with production largely based on agriculture.

   (a) Within the model we discussed in class, what would capture variations in weather?

   (b) Could variations in weather explain the business cycles in this economy, assuming that its data exhibits the same stylized facts as the US economy? Explain.

4. **[Bonus: 10%]** Assume you have two series: nominal GDP and real GDP with base year 1990. Explain *precisely* how to compute from this a series for real GDP with base year 2000.