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Fall 2004, Intermediate Macroeconomics, section 4

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. **[10%]** We know the following about a car repair shop: repair sales 1000\$, cost of spare parts 300\$, recycling fees 100\$, wages 350\$, taxes 50\$.

(a) What is the contribution of this shop to GDP according to the production approach?

(b) And according to the income approach?

(c) Justify your treatment of the recycling fee.

2. **[30%]** Here are some business cycle statistics for Molvanía (a nice travel destination, by the way). All data has been 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	1.56	.86	1.00	.86
Consumption	1.34	.56	.68	.55
Fixed investmt	5.67	.45	.34	.23
Employment	1.05	.45	.59	.34
Real wages	1.11	.34	.38	.23
Money (M0)	2.34	.12	.06	.01

- (a) Why is it usually difficult to measure wages?
- (b) What does .86 represent, in the GNP line? What does this represent?
- (c) What stylized facts do you see about the Molvanian business cycle?
- (d) Remembering the US stylized facts, what strikes you as being different?

3. [40%] Circle the correct answer to each of the following questions. Remember that there can be several answers:

- (a) Macroeconomics is about:
 - i. anything that is not microeconomics;
 - ii. only money and its impact;
 - iii. questions regarding large economics aggregates;
 - iv. understanding phenomena at the scale of a national economy.
- (b) An increase in personal taxes T leads to:
 - i. a higher consumption demand;
 - ii. a lower consumption demand;
 - iii. a higher output supply;
 - iv. a lower output supply.
- (c) Real GDP or GNP is of little use for short-term analysis because:
 - i. it is published with a long delay;
 - ii. it is only available at quarterly or yearly frequency;
 - iii. published data is sometimes substantially revised;
 - iv. short-term fluctuations are irrelevant anyway.
- (d) Total hours are
 - i. countercyclical;
 - ii. procyclical;
 - iii. very volatile;
 - iv. as volatile as output.
- (e) When the wage decreases, 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) The role of the growth rate is to:
 - i. remove price effects from the data;
 - ii. remove long-term trends from the data;
 - iii. remove autocorrelation from the data;
 - iv. express all data in %.

4. **[20%]** Assume the government introduces a labor income tax, in addition to the existing tax. Say the tax is of the form $\tau w(h - \ell)$, that is, a proportional tax, where τ is the tax rate.

(a) Within the model we discussed in class, show graphically the impact this tax would have on the consumer problem.

(b) What are the likely consequences for consumption and leisure demand? Explain.

5. **[Bonus: 10%]** Explain why we need to make the assumption that consumption is a normal good.