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Fall 2009, 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 8:50 and can leave early, if you wish.

1. **[20%]** The following table shows some data from two firms, a household and a government. Note that some numbers may be missing but can be concluded from the others.

Lumberjack

Sales		15	Taxes
		230	Wages
		5	Loan Interest
			Profits
	300		

Carpenter

Sales	600	100	Taxes
		100	Wages
		210	Lumber
			Profits

Household

Wages		85	Taxes
Profits			Firewood
Interest			Houses

Government

Taxes	200	200	Wages

(a) Fill the missing numbers in the table above.

(b) Show what GDP is according to the product approach. Show the details of your calculations.

(c) Do the same for the income approach.

2. **[30%]** Suppose there is an improvement in total factor productivity.

   (a) What is the consequence for labor supply? Why?

   (b) What is the consequence for labor demand? Why?

   (c) Thus, what happens to the equilibrium wage and employment? Explain.

   (d) What does this imply in terms of output and consumption? Why?

   (e) From what you found above, would changes in total factor productivity be a good explanation for the business cycle fluctuations we observe in the United States? Why?

3. **[15%]** Suppose a hurricane destroys capital in an economy.

   (a) How is the production possibilities frontier affected? Make a graph.

   (b) Keeping labor unchanged, would the marginal rate of transformation change? How? Why? What does this imply for the real wage?

   (c) But in equilibrium, does labor change? How?

4. **[35%]** Circle the correct answer to each of the following questions. Remember that there can be several answers or none:

   (a) We have assumed the following about households:

      i. they care about money;
      ii. their marginal income from labor is decreasing;
      iii. they like working;
      iv. they work for the government.

(b) Labor demand is:
   i. increasing in the real wage;
   ii. decreasing in the real wage;
   iii. increasing in profits;
   iv. decreasing in profits.

(c) When the wage increases:
   i. households want to consume more;
   ii. households want to consume less;
   iii. households want to work more;
   iv. households want to work less.

(d) We need to remove trends from the data for business cycle analysis because:
   i. we need to take logarithms;
   ii. we would have a monetary illusion;
   iii. trends generate spurious correlations;
   iv. it makes economic variables endogenous.

(e) For the household's leisure decision after a change in the wage, compared to the income effect, the substitution effect is:
   i. weaker;
   ii. about the same;
   iii. stronger;
   iv. inexistent.

(f) In recent history, prices hsve been:
   i. procyclical;
   ii. acyclical;
   iii. countercyclical;
   iv. anticyclical.

(g) The unemployment rate is defined by:
   i. unemployment insurance claimants over population;
   ii. unemployment insurance claimants over labor force;
   iii. job seekers over working age population;
   iv. job seekers over labor force.

5. **[Bonus: 10%]**

   Explain why the welfare theorem fails to hold if there is a proportional labor income tax.