I. Hakan Yetkiner
http://homes.ieu.edu.tr/~iyetkiner/

Izmir Univery of Economics
Department of Economics

ECON 202
INTERMEDIATE MACROECONOMICS **17 April 2007**
Dr. Yetkiner

Practice Exam 01*

1. Calculate the GDP of Farmland, a fictitious economy whose numbers are listed below. Do so using all three methods (product approach, income approach, and expenditure approach).

Farmland, year 2000

Farmer Jones, (private firm)	**Sold 1/3 of corn harvest to Govt**	**$30k**
	Sold 1/3 of corn harvest to Singapore	**$25k**
	Sold 1/3 of corn harvest to FoodCo, Inc	**$20k**
	Paid workers	**$40k**
	Tax on profit	**$10k**
FoodCo, Inc	**Sold Corn Flakes to Farmland public**	**$100k**
	Farmland sales tax	**$10k**
	Revenue of FoodCo, Inc	**$90k**
	Bought corn from Farmer Jones	**$20k**
	Bought salt from Egypt	**$10k**
	Paid workers	**$20k**
	Tax on Profit	**$15k**
Farmland Govt	**Taxes**	**$45k**
	Purchase of Corn	**$30k**
	Payment of unemployment benefits	**$15k**
Households	**Taxes on wage income**	**$10k**
	Unemployment benefits	**$15k**

* Some questions are adapted from various sources on the Internet.

2. Assume that GDP=4,800; C=3,400; Private Domestic Savings=400; G=1,200; and NX=-120. What are disposable income, private domestic investment, and the budget deficit?

3. Fill in the blanks in the following table:

Year	Nominal GDP	Real GDP	GDP Deflator (1992=100)
1992		**6244.43**	
1993	**6558.10**	**6389.55**	
1994	**6946.98**		**105.08**
1995		**6761.75**	**107.51**
1996	**7661.58**	**6994.75**	

4. Suppose that utility function u of a representative agent is $u = c^{0.25} l^{0.75}$, where c is consumption of physical goods and l is consumption of leisure. Suppose that non-labor income is 120. Assume that real wage rate is $w = 5$ and that $h = 24$ hours. Find the optimal values of c, l, N^s, and u.

5. Suppose that utility function u of a representative agent is $u = c^{0.25} l^{0.75}$, where c is consumption of physical goods and l is consumption of leisure. Suppose that production technology is represented by $y = 2K^{0.35} N^{0.65}$ where K is a given amount of physical capital stock, and N is labor demand. We assume that $h = l + N$, w is the real wage, and π is profits. There is no government in the economy.

a) Find the optimal values of c, l, N, y, w, π, and u under the competitive equilibrium assumption.
b) Find the optimal values of c, l, N, y, and u under the social planner's solution assumption. Are the results different or same? Why or why not?

6. Suppose that Daniel has income of y_1 when he is young and y_2 when he is old. Initially, the real interest rate is r_1. The overall utility function of Daniel is $U = 2c_1^{0.5} + (0.25)2c_2^{0.5}$.

(i) Find the optimal values of c_1 and c_2.

(ii) Show that $\frac{\partial c_1^*}{\partial y_1} > 0$, $\frac{\partial c_2^*}{\partial y_1} > 0$, and $\frac{\partial s}{\partial y_1} > 0$.

(iii) Show that $\frac{\partial c_1^*}{\partial y_2} > 0$, $\frac{\partial c_2^*}{\partial y_2} > 0$, and $\frac{\partial s}{\partial y_2} < 0$.

7. An unexpected invention makes supersonic transportation substantially cheaper. This invention is expected to be incorporated into the economy's (total factor) productivity not immediately, but within a few years. Thus, z is expected to rise in the near future and stay higher indefinitely. If equilibrium is reached in the goods and labor markets, what will happen to current values of N, I, C, Y, w, and r? (Hint: Some of these changes may be ambiguous)

8. A government which only taxes in a lump-sum fashion decides to go to war. It thus increases military spending, for the current year only (i.e. people expect this one-time increase in spending will be sufficient to win the war). What effect will this have on the labor market and the goods market?

9. Study also problems 2, 6 and 8 at pp.343-344.