I. Hakan Yetkiner
http://www.hakanyetkiner.com/

Izmir University of Economics
Department of Economics

ECON 300

Advanced Macroeconomics **20 November 2012**

Dr. Yetkiner

Midterm Exam

1. (**20 Points**) Calculate the GDP of Farmland, a fictitious economy whose numbers are listed below. Do so using all three methods (value added approach, income approach, and expenditure approach).

FarmLand, year 2000

Farmer Jones, (private firm)	
Corn sold to Govt	**$25**
Corn sold to Singapore	**$25**
Corn sold to FoodCo, Inc	**$20**
Paid workers	**$40**
Tax on profit	**$15**

FoodCo, Inc	
Corn Flakes Sold to Consumers	**$100**
Corn Flakes Sold to Japan	**$10**
Corn Flakes Sold to Government	**$15**
Corn bought from Farmer Jones	**$20**
Corn Inventory	
Beginning of Year	**$20**
End of Year	**$10**
Salt bought from Egypt	**$10**
Paid workers	**$20**
Tax on Profit	**$25**

Farmland Govt	
Taxes	**$50**
Purchase of Corn	**$25**
Transfers to Poor People	**$10**
Purchase of Corn Flakes	**$15**

Households	
Taxes on wage income	**$10**

2. **(20 Points-Partial Equilibrium)** Suppose that utility function u of a representative agent is $u = \sqrt{c}\sqrt{l}$, where c is consumption of physical goods and l is consumption of leisure. Suppose further that $w = 2$, $\pi = 12$, and $h = 24$.

(a) **Find** the optimal values of c and l. (**10 points**)
(b) Suppose now that π increased to $\pi = 24$. **Find** the new optimal values of c and l. (**5 points**)
(c) **Illustrate** the change from the initial equilibrium to the new equilibrium. Is the change in profit from 12 to 24 the pure income effect, pure substitution effect or total effect? Why? Explain. (**5 points**)

3. (25 Points- General Equilibrium) Suppose that utility function u of a representative agent is $u = c^{(3/4)}l^{(1/4)}$, where c is consumption of physical goods and l is consumption of leisure. Suppose that production technology is represented by $y = (0.5)\overline{K}^{0.5} \cdot N^{0.5}$ where $\overline{K} = 16$ is the physical capital stock and N is labor. We assume that $h = 24$, $h = l + N$ and that there is no government in the economy (use w and π to denote the real wage and real profits, respectively). **Find** the optimal values of c, l, N, y, w, π, and u under the *competitive equilibrium* assumption.

4. (20 Points) Suppose that total factor productivity in AgroLand decreases due to unfavorable weather conditions. Using the *general equilibrium* model developed in chapter 5, **determine** the effects this has on *aggregate output*, *consumption*, *employment*, and the *real wage*. Hint: Do not forget to draw a figure and discuss in detail the impact of the exogenous shock.

5. **(20 Points)** Suppose that the government imposes real wage decreases. Using the *partial equilibrium* model developed in chapter 4, **determine** the effects this has on *consumption*, *employment*, and *leisure*. Hint: Do not forget to draw a figure and discuss in detail the impact of the exogenous shock.