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ECON 202
MACROECONOMIC THEORY **7 May 2014**
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Midterm Exam

1. (**15 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). Please do indicate your calculations clearly.

Farmland, Year 2014

Farmer Jones, (private firm)	
Corn Sold to Govt	**$30**
Corn Sold to Singapore	**$25**
Corn Sold to FoodCo, Inc	**$20**
Payment to workers	**$40**
Tax on profit	**$15**

FoodCo, Inc	
Sold Corn Flakes to Consumers	**$100**
Sold Corn Flakes to Govt	**$20**
Bought corn from Farmer Jones	**$20**
Bought salt from Egypt	**$10**
Payment to workers	**$20**
Tax on Profit	**$15**
Corn Inventory	
Beginning of Year	**$0**
End of Year	**$5**

Farmland Govt	
Taxes	**$50**
Purchase of Corn	**$30**
Purchase of Corn Flakes	**$20**
Unemployment benefits Paid	**$15**

Households	
Taxes on wage income	**$10**
Unemployment benefits	**$15**
Corn Flakes purchased	**$100**

2. (**15 Points**) Suppose that the following equations describe a simple Keynesian macro economy:

$C = 45 + 0.9(\mathrm{Y} - \mathrm{T})$; $\quad \mathrm{T} = 50 + (0.1)\mathrm{Y}$; $\quad I = 2500 + 0.09 \cdot Y$; $\quad G = 2000$

Find the **multiplier** and **equilibrium GDP** values of this economy.

3. (**15 Points**) Suppose that firms and consumers decrease respectively their investment and consumption demands due to completely exogenous reasons. Suggest and compare and contrast **two alternative policies** that may restore GDP at original equilibrium. Please **do not forget to support your answer by a figure and discuss it in detail**.

4. (**20 Points**) Consider the following IS-LM model:

$C = 400 + 0.75\text{YD};\ \text{T} = 400 - 0.1 \cdot Y;\ I = 300 - 1500i;\ G = 600;\ P = 0.5$

$M^d = 3 \cdot Y - 12000 \cdot i$ (real money demand); $M^s = 3000$ (nominal money supply)

(a) Derive the IS equation.

(b) Derive the LM equation.

(c) Find the equilibrium Y and i.

(d) What is the government expenditure multiplier for $\Delta G = 100$?

5. (**20 Points**) Suppose that the Turkish government decided to increase money supply through open market operations. Using the AS-AD setup (i.e., price is variable), **discuss** and **show** the effects of this change on the position of the AD, AS, IS, and LM curves and on output, the interest rate, and the price level in the short run and medium run. Assume that the economy was at the natural level of output before the increase in money supply.

6. (**25 Points**) Consider the following AD-AS model:

$C = 1 + 0.5\text{YD}$; $\text{T} = 2$; $I = 1 - 10i$; $G = 2$; $P = 1 + Y$ (**short run AS**) and $Y^* = 2$ (**medium run AS**); $M^d = 300 - 1000 \cdot i$ (real money demand); $M^s = 300$ (nominal money supply)

(a) Derive the AD equation (**5 Points**).

(b) Find and illustrate the short run and medium run equilibrium Y, P and i values. (10 **Points**)

(c) Suppose now that $G = 3$. Find and illustrate the new **short run** equilibrium Y and P values and calculate the government expenditure multiplier (**10 Points**)