

Student ID.....

EE212 Principles of Macroeconomics, 2/2016 (Sec. 046401)

Problem Sets 1 :

Please submit at the BE office, 5th floor department of Economics building.

Deadline of submission : February 24, 2017, before 15.00 hrs.

Late submission will not be accepted.

1. In your country, which would you want to be bigger, GDP, or GNP? Why? Explain the difference between GDP and GNP. Give one plausible reason why GNP may exceed GDP and one plausible reason why GDP may exceed GNP.

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2. Define GDP and explain why the value of production, income, and expenditure are the same for an economy.

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3. What is the difference between gross investment and net investment? Can gross investment be positive when net investment is negative?

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4. One may summarize the three firms in the following table;

	A	B	C	D
1. Sales; (value of goods produced)	600	2,000	400	1,000
2. Wages, Interest, Rent	440	1,200	260	400
3. Value of Intermediate inputs	0	600	0	500
Profit	160	200	140	100

- (a) Define and calculate value added by each firm A, B, C and D.

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- (b) Calculate GDP of this economy by using value added approach and income approach. Explain.

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- Farmers : oranges**
5,000 M. Bht

Factory : orange juice
10,000 M. Bht

Factory : squeezer machines

Consumers: eat

Consumers: drink

4,000 M. Bht

2,000 M. Bht

1,000 M. Bht

6. Consider the following economy that is producing only goods A (apples) and goods B (bananas). Prices and quantities for 2005 and 2017 are displayed in the following table:

Goods	2005			2017		
	P	Q	$P_t Q_t$	P	Q	$P_t Q_t$
A (Apples)	40	125	5,000	60	100	6,000
B (Bananas)	100	50	5,000	80	70	5,600
total			10,000			11,600

- (a) Calculate the Nominal GDP, the Real GDP (using 2005 prices) and the GDP deflator in each year; 2005 = base year

$$\begin{aligned}
 \text{real GDP}^{2005} &= \sum_i P_i \dots Q_i \dots \\
 &= (\dots \times \dots) + (\dots \times \dots) \\
 &= \dots
 \end{aligned}$$

$$\begin{aligned}
 \text{real GDP}^{2017} &= \sum_i P_i \dots Q_i \dots \\
 &= (\dots \times \dots) + (\dots \times \dots) \\
 &= \dots
 \end{aligned}$$

$$\begin{aligned}
 \text{GDP deflator}_{2005} &= \frac{\text{GDP}_{20\dots}}{\text{real GDP}_{20\dots}} \times 100 \\
 &= \dots
 \end{aligned}$$

$$\begin{aligned}
 \text{GDP deflator}_{2017} &= \frac{\text{GDP}_{20\dots}}{\text{real GDP}_{20\dots}} \times 100 \\
 &= \dots
 \end{aligned}$$

- (b) Calculate the Nominal GDP, the Real GDP (using 2017 prices) and the GDP deflator in each year; 2017 = base year

$$\begin{aligned}
 \text{real GDP}^{2005} &= \sum_i P_i \dots Q_i \dots \\
 &= (\dots \times \dots) + (\dots \times \dots) \\
 &= \dots
 \end{aligned}$$

$$\begin{aligned}
 \text{real GDP}^{2017} &= \sum_i P_i \dots Q_i \dots \\
 &= (\dots \times \dots) + (\dots \times \dots) \\
 &= \dots
 \end{aligned}$$

$$\begin{aligned}
 \text{GDP deflator}_{2005} &= \frac{\text{GDP}_{20\dots}}{\text{real GDP}_{20\dots}} \times 100 \\
 &= \dots
 \end{aligned}$$

$$\begin{aligned}
 \text{GDP deflator}_{2017} &= \frac{\text{GDP}_{20\dots}}{\text{real GDP}_{20\dots}} \times 100 \\
 &= \dots
 \end{aligned}$$

7. The data of a country is given as follows.

Transfer Payments	\$54
Interest Income	\$150
Depreciation	\$36
Wages	\$67
Gross Private Investment	\$124
Business Profits	\$200
Indirect Business Taxes	\$74
Rental Income	\$75
Net Exports	\$18
Government Purchases	\$156
Household Consumption	\$304

- (a) Calculate GDP using Expenditure Approach.

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- (b) Calculate GDP using Income Approach

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8. Explain why two countries with the same level of GDP per capita are likely to have different standards of living. Suppose GDP per capita increases in both countries, explain why the standard of living in both countries might fall.

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9. If real disposable income rises by \$100 and consumption rises by \$75, then the MPC =
10. Suppose consumption function takes this form, $C = a + bY_d$. Helen's break-even disposable income is \$10,000 and her MPC is 0.75.

(a) Find a and b . Write down consumption and saving function.

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(b) If her actual disposable income is \$16,000, what is her consumption and what is her saving.

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11. Suppose consumption function takes this form $C = 2,500 + 0.75Y_d$. Tax = $T = 2,000$.

(a) Find consumption and saving when income $(Y) = 10,000$.

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(b) Find consumption and saving when income $(Y) = 12,000$.

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