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Macroeconomics 1 – Spring Semester 2012

HOMEWORK ASSIGNMENT 1

Deadline to submit: 6.04.2012, 8:30 a.m. (in class)

Problem 1 (3 points)

1. You have the following information about the economy

Consumption	400
Government budget balance	-500
Taxes	200
Net domestic investment	800
Depreciation	150
Export	300
Import	450
Factor incomes of domestic factors of production used abroad	200
Factor incomes of foreign factors of production used in the given country	300
Indirect taxes	50
Subsidies	30
Retained earnings	100
Income taxes and social insurance	120
Government social and interest payments to households	45

Calculate government purchases, net export, gross domestic investment, gross domestic product, gross national product, net national product, national income and personal income.

Problem 2 (1 point + 0.5 BONUS)

Consider the following
data on U.S. GDP:

	Nominal GDP (in billions)	GDP Deflator (base year 1992)
Year		
1996	7,662	110
1997	8,111	112

- (0.5 point) What was real GDP in 1996 measured in 1992 prices? What was real GDP in 1997 measured in 1992 prices?
- (0,5 point) What was the growth rate of nominal GDP between 1996 and 1997? What was the growth of real GDP between 1996 and 1997?
- (0.5 BONUS) Was the growth rate of nominal GDP higher or lower than the growth rate of real GDP? Explain why

Problem 3 (2 points)

Consider the economy which produces only cars and airplanes. The economy is characterized by the following data

	Price		Quantity	
	Cars	Airplanes	Cars	Airplanes
Rok 2010	7	6	4	5
Rok 2009	6	5	5	7
Rok 2006	5	6.5	6	6

Calculate nominal GDP in 2010 and 2009, real GDP in 2010 and 2009 (use 2006 as the base year), GDP deflator in 2010 and 2009, CPI in 2010 and 2009 and change in real GDP between 2010 and 2009. Does the inflation accelerate or decelerate in 2010 compared to 2009?

Problem 4 (1 point + 0.5 BONUS)

The New York Times cost \$0.15 in 1970 and \$0.75 in 1999. The average wage in manufacturing was \$3.35 per hour in 1970 and \$13.84 in 1999.

- (0.5 point) By what percentage did the price of a newspaper rise? By what percentage did the wage rise?
- (0.5 point) In each year, how many minutes does a worker have to work to earn enough to buy a newspaper?
- (0.5 point) Did workers' purchasing power in terms of newspapers rise or fall?

Problem 5 (1 point + 1 BONUS)

Suppose the Czech government borrows \$20 billion more next year than this year.

- (0.5 point) Use a supply-and-demand diagram to analyze this policy. Does the interest rate rise or fall?
- (0.5 point) What happens to investment? To private saving? To public saving? Compare the size of the changes to the \$20 billion of extra government borrowing.
- (1 BONUS) Suppose households believe that greater government borrowing today implies higher taxes to pay off the government debt in the future. What does this belief do to private saving and the supply of loanable funds today? Does it increase or decrease the effects you discussed in parts (a) and (b)?

Problem 6 (1 point)

Consider the following table representing the labor force participation rate of the U.S. citizens sampled by gender and age in year 1970 and year 1990:

	Of all men	Of men aged 16-24	Of men aged 25-54	Of men aged >55
1970	80%	69%	96%	56%
1990	76%	72%	93%	40%
	Of all women	Of women aged 25-34	Of women aged 35-44	Of women aged 45-54
1970	43%	45%	51%	54%
1990	58%	74%	77%	71%

- a. (0.5 point) Which age group experienced the largest decline among men? Which age group experienced the largest increase among women?
- b. (0.5 point) What factor may have played an important role in the decline in overall male labor-force participation between 1970 and 1990? Why younger women experienced a bigger increase in labor-force participation than older women?