

## EE212

### Homework 2

1. Artica is a nation with a simple economy that produces only six goods: oranges, bicycles, magazines, paper, orange juice and hats. Assume that half of all the oranges are used to produce oranges juice and one-third of all the paper is used to produce magazines.

Product	2009		2010		2011	
	Quantity	Price	Quantity	Price	Quantity	price
oranges	180	\$0.90	200	\$1.00	200	\$1.25
bicycles	20	85.00	25	90.00	30	95.00
magazines	175	3.50	150	3.50	150	3.25
paper	675	0.60	600	0.50	630	0.50
orange juice	40	3.50	50	4.00	60	4.50
hats	70	10.00	80	12.50	100	15.00

Use the production and price information in the table to calculate real GDP for 2009, 2010 and 2011 using 2010 as the base year. What is the growth rate of real GDP from 2009 to 2010 and from 2010 to 2011?

2. The following table contains nominal and real GDP data, in the billions of dollars, from the US Bureau of Economic Analysis for 2008 and 2009. The data is listed per quarter, and the real GDP data was calculated using 2005 as the base year. Fill in the columns for the GDP deflator and for the percent increase in price level.

Quarter	Nominal	Real GDP	GDP deflator	Percent increase in price level
2008q1	14,373.9	13,336.9		
2008q2	14,497.8	13,415.3		
2008q3	14,546.7	13,324.6		
2008q4	14,347.3	13,141.9		
2009q1	14,178.0	12,925.4		
2009q2	14,151.2	12,901.5		
2009q3	14,242.1	12,973.0		
2009q4	14,453.8	13,149.5		

3. The consumer price index (CPI) is a fixed-weighted index. It compares the price of fixed bundle of goods in one year with the price of the same consumer goods in some base year. Calculate the price of a bundle containing 100 units of goods X, 150 units of good Y, and 25 units of good Z in 2008, 2009, and 2010. Convert the results into an index by dividing each bundle price figure by the bundle price in 2008. Calculate the percent change in your index between 2008 and 2009 and again between 2009 and 2010. Was there inflation between 2009 and 2010?

Goods	Quantity consumed	2008 prices	2009 prices	2010 prices
X	100	\$1.00	\$1.50	\$1.75
Y	150	1.50	2.00	2.00
Z	25	3.00	3.25	3.00

4. Consider the following items and answer whether they are calculated in GDP.
- House painting by the owner of the house
  - Expenditure on computers for graphic designer
  - Dividend from corporations to shareholders
  - Purchase of stock in secondary market
  - Marriage between house owner and maid
5. "GDP is a good indicator to measure people welfare and standard of living," do you agree or disagree? Discuss (Midterm exam 2/2012)
6. A factory produces car for both domestic and international markets. In its first year of operation, it fails to sell cars but all are sold out in the following years. Consider these two statements. Do you agree or disagree?
- Even though cars were not sold out, it did raise GDP
  - The sales of cars in the following years did not increase GDP
7. In a simple economy, suppose that all income is either compensation of employees or profits. Suppose also that there are no indirect taxes. Calculate gross domestic product from the following set of numbers. Show that the expenditure approach and the income approach add up to the same figure.
- Consumption \$5,000
  - Investment 1,000
  - Depreciation 600
  - Profits 900

- Exports 500
- Compensation of employees 5,300
- Government purchases 1,000
- Direct taxes 800
- Saving 1,100
- Imports 700