

# Lecture 1 - Recommended Problems

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## ☆☆ Chapter 2, Problem 4

An economy produces three goods: cars, computers, and oranges. Quantities and prices per unit for years 2009 and 2010 are as follows:

	2009		2010	
	Quantity	Price	Quantity	Price
<b>Cars</b>	<b>10</b>	<b>\$2000</b>	<b>12</b>	<b>\$3000</b>
<b>Computers</b>	<b>4</b>	<b>\$1000</b>	<b>6</b>	<b>\$500</b>
<b>Oranges</b>	<b>1000</b>	<b>\$1</b>	<b>1000</b>	<b>\$1</b>

- What is nominal GDP in 2009 and in 2010? By what percentage does nominal GDP change from 2009 to 2010?
- Using the prices for 2009 as the set of common prices, what is real GDP in 2009 and in 2010? By what percentage does real GDP change from 2009 to 2010?
- Using the prices for 2010 as the set of common prices, what is real GDP in 2009 and in 2010? By what percentage does real GDP change from 2009 to 2010?
- Why are two output growth rates constructed in (b) and (c) different? Which one is correct? Explain your answer.

## ☆☆ Chapter 2, Problem 5

Consider the economy described in Q2-4 above.

- Use the prices for 2009 as the set of common prices to compute real GDP in 2009 and in 2010. Compute the GDP deflator for 2009 and for 2010, and compute the rate of inflation for 2009 to 2010.
- Use the prices for 2010 as the set of common prices to compute real GDP in 2009 and in 2010. Compute the GDP deflator for 2009 and for 2010 and compute the rate of inflation for 2009 to 2010.
- Why are the two rates of inflation different? Which one is correct? Explain your answer.

## ☆☆ Chapter 2, Problem 6

Consider the economy described in exercise 4.

- a. Construct real GDP for years 2009 and 2010 by using the average price of each good over the two years.
- b. By what percentage does real GDP change from 2009 to 2010?
- c. What is the GDP deflator in 2009 and 2010? Using the GDP deflator, what is the rate of inflation for 2009 to 2010?
- d. Is this an attractive solution to the problem pointed out in Problems 4 and 5 (i.e., two different growth rates and two different inflation rates, depending on which set of prices is used)?

## ☆ Chapter 2, Problem 3

During a given year, the following activities occur:

- A silver mining company pays its workers \$200,000 to mine 75 pounds of silver. The silver is then sold to a jewelry manufacturer for \$300,000.
- The jewelry manufacturer pays its workers \$250,000 to make silver necklaces, which the manufacturer sells directly to consumers for \$1,000,000.

Based on this information, answer the following questions:

- a. Using the production-of-final-goods approach, what is GDP in this economy?
- b. What is the value added at each stage of production? Using the value-added approach, what is GDP?
- c. What are the total wages and profits earned? Using the income approach, what is GDP?