Assignment 1: Due date October 10 at 19:00

Assignments should be submitted in class-Late submissions or submissions by email will not be accepted

Part I: Measuring a Nation's Income

Quick Quizzes

1. *What two things does gross domestic product measure? How can it measure two things at once?*

3. *List the four components of expenditure. • What does it mean when net exports have a negative value?*

4. *Define real and nominal GDP. Which is a better measure of economic well-being? Why?*

5. *Why should policymakers care about GDP?*

Questions for Review

1. *Explain why an economy's income must equal its expenditure.*

2. *Many years ago Peggy paid $500 to put together a record collection. Today she sold her albums at a garage sale for $100. How does this sale affect current GDP?*

3. *Why do economists use real GDP rather than nominal GDP to gauge economic well-being?*

4. *In the year 2014, the economy produces 100 loaves of bread that sell for $2 each. In the year 2015, the economy produces 200 loaves of bread that sell for $3 each. Calculate nominal GDP, real GDP, and the GDP deflator for each year. (Use 2014 as the base year.) By what percentage does each of these three statistics rise from one year to the next?*

5. *Why is it desirable for a country to have a large GDP? Give an example of something that would raise GDP and yet be undesirable.*

Problems and Applications

1. *Below are some data from the land of milk and honey.*

Year	*Price of Milk*	*Quantity of Milk (litres)*	*Price of Honey*	*Quantity of Honey (litres)*
2013	*$1*	*100*	*$2*	*50*
2014	*1*	*200*	*2*	*100*
2015	*2*	*200*	*4*	*100*

a. *Compute nominal GDP, real GDP, and the GDP deflator for each year, using 2013 as the base year.*
b. *Compute the percentage change in nominal GDP, real GDP, and the GDP deflator in 2014 and 2015 from the preceding year. For each year, identify the variable that does not change. Explain in words why your answer makes sense.*
c. *Did economic well-being rise more in 2014 or 2015? Explain.*

2. *Consider an economy that produces only chocolate bars. In year 1, the quantity produced is 3 bars and the price is $4. In year 2, the quantity produced is 4 bars and the price is $5. In year 3, the quantity produced is 5 bars and the price is $6. Year 1 is the base year.*
   a. *What is nominal GDP for each of these three years?*
   b. *What is real GDP for each of these years?*
   c. *What is the GDP deflator for each of these years?*
   d. *What is the percentage growth rate of real GDP from year 2 to year 3?*
   e. *What is the inflation rate as measured by the GDP deflator from year 2 to year 3?*
   f. *In this one-good economy, how might you have answered parts (d) and (e) without first answering parts (b) and (c)?*

3. *Consider the following data on Canadian GDP:*

Year	**Nominal GDP (billions)**	**GDP Deflator (base year 2007)**
2013	$1893	111
2014	$1975	113

   a. *What was the growth rate of nominal GDP between 2013 and 2014? (Note: The growth rate is the percentage change from one period to the next.)*
   b. *What was the growth rate of the GDP deflator between 2013 and 2014?*
   c. *What was real GDP in 2013 measured in 2007 prices?*
   d. *What was real GDP in 2014 measured in 2007 prices?*
   e. *What was the growth rate of real GDP between 2013 and 2014?*
   f. *Was the growth rate of nominal GDP higher or lower than the growth rate of real GDP? Explain.*

Part II: Measuring the Cost of Living

Quick Quizzes

1. *Explain briefly what the consumer price index is trying to measure and how it is constructed.*

2. *Henry Ford paid his workers $5 a day in 1914. If the U.S. consumer price index was 10 in 1914 and 195 in 2005, how much is the Ford daily paycheque worth in 2005 dollars?*

Questions for Review

1. *Describe the three problems that make the consumer price index an imperfect measure of the cost of living.*

2. *If the price of a military aircraft rises, is the consumer price index or the GDP deflator affected more? Why?*

3. *Over a long period of time, the price of a candy bar rose from $0.10 to $0.60. Over the same period, the consumer price index rose from 150 to 300. Adjusted for overall inflation, how much did the price of the candy bar change?*

4. *Explain the meaning of* nominal interest rate *and* real interest rate*. How are they related?*

Problems and Applications

1. *Suppose that people consume only three goods, as shown in this table:*

	Tennis Balls	***Tennis Racquets***	***Gatorade***
2014 price	*$2*	*$40*	*$1*
2014 quantity	*100*	*10*	*200*
2015 price	*$2*	*$60*	*$2*
2015 quantity	*100*	*10*	*200*

   a. *What is the percentage change in the price of each of the three goods? What is the percentage change in the overall price level?*
   b. *Do tennis racquets become more or less expensive relative to Gatorade? Does the well-being of some people change relative to the well-being of others? Explain.*

2. *Suppose that the residents of Vegopia spend all of their income on cauliflower, broccoli, and carrots. In 2014 they buy 100 heads of cauliflower for $200, 50 bunches of broccoli for $75, and 500 carrots for $50. In 2015 they buy 75 heads of cauliflower for $225, 80 bunches of broccoli for $120, and 500 carrots for $100. If the base year is 2014, what is the CPI in both years? What is the inflation rate in 2015?*

3. *A small nation of ten people idolizes the TV show* Canadian Idol*. All that the ten people produce and consume are karaoke machines and CDs, in the following amounts:*

	Karaoke Machines		***CDs***	
	Quantity	***Price***	***Quantity***	***Price***
2014	*10*	*$40*	*30*	*$10*
2015	*12*	*60*	*50*	*12*

   a. *Using a method similar to the consumer price index, compute the percentage change in the overall price level. Use 2014 as the base year, and fix the basket at 1 karaoke machine and 3 CDs.*
   b. *Using a method similar to the GDP deflator, compute the percentage change of the overall price level. Also use 2014 as the base year.*
   c. *Is the inflation rate in 2015 the same using the two methods? Explain why or why not.*