

# Homework 2

Econ 2203

10 October 2000

## Instructions

- Go to the US Commerce Department's Bureau of Economic Analysis website at <http://www.bea.doc.gov/>
- Under the title *National* click on *GDP and related data*.
- Under the description *Time Series Estimates* you will find a link to *Current-dollar and "real" GDP*. Click on it. This should bring you to a three-column table with the headings,

Bureau of Economic Analysis  
National Income and Product Accounts

Gross domestic product,  
in current dollars and in chained (1996) dollars

If this fails try:

<http://www.bea.doc.gov/bea/dn/gdplev.htm>

- Using the *yearly* real data in this table (last column) answer the following questions.
- This is due on Tuesday, 17 October 2000.

*Note:* The following formula can be used to compute the annualized changes:

$$\text{annualized \% change} = \left[ \left( \frac{X_t}{X_i} \right)^{\frac{f}{T}} - 1 \right] * 100 \quad (1)$$

where  $X_t$  is the ending year's GDP,  $X_i$  is the initial year's GDP,  $f$  is the frequency with which the data are observed (these are yearly so  $f=1$ ), and  $T$  is the number of time periods that have elapsed from the initial value  $X_i$  to the terminal value  $X_t$ .

*Example:* In 1929 real GDP is 822.2 and in 1999 it is 8,875.8. The data are measured annually so  $f = 1$ . 1929 to 1999 spans 70 years so  $T = 70$ . The approximate annualized rate of growth between 1929 and 1999 is

$$\left[ \left( \frac{8,875.8}{822.2} \right)^{\frac{1}{70}} - 1 \right] * 100 = 3.457 \quad (2)$$

## Questions

1. Based on these data, in what year did the bottom of the Great Depression occur? Be sure to base your answer on Real GDP.
2. Real GDP (1996=100) in 1929 was \$822.2 billion. What was the annualized percentage decrease in real GDP from 1929 to the year chosen above?
3. How many years did it take for real GDP to return to its pre-depression (1929) level?
4. What was the annualized rate of real GDP growth during WWII (1940-1945)?
5. What were the annualized real growth rates for 1950-1959, 1960-1969, 1970-1979, 1980-1989, and 1990-1999?

Fill in your answers in the table below. Remember to base your answers on real GDP.

Question	Answer
Bottom of the Great Depression (year)	
Annualized growth from 1929-bottom of Depression	
Years until recovery	
Annualized Growth rate during WWII	
Annualized Growth rate during the 1950's	
Annualized Growth rate during the 1960's	
Annualized Growth rate during the 1970's	
Annualized Growth rate during the 1980's	
Annualized Growth rate during the 1990's	