

**Case, Fair and Oster**  
**Macroeconomics – Chapter 5**  
**Introduction to Macroeconomics**

Note that your main task in this chapter is to get the vocabulary and definitions – the “Definitions” handouts on the circular flow and the national income and product accounts should be your primary focus for study. Note also that the Wikipedia articles on inflation and unemployment are quite good; that on recession is not really satisfactory.

**Problem 1. Define inflation.**

**A general and continuing increase in the price level, as measured by the Consumer Price Index or the GDP deflator or another measure of overall prices.** Note that the definition excludes an increase in one category of goods, such as food or energy. In fact, the most closely watched measure of inflation for policy purposes, **core inflation**, excludes the often volatile food and energy sectors entirely.

The specific problem in the text notes that fish prices increase sharply and meat prices have fallen. What happens to inflation depends on how heavily each purchase is weighted in computing the price index – in practice, the Consumer Price Index weights each product by the share of total consumer expenditure on that product.

**Problem 2. Define unemployment.**

A member of the labor force who desires a job, is willing to accept reasonable wages, and cannot find one is unemployed. The **unemployment rate** is the percentage of the labor force which is unemployed.

There are problems in implementing this definition – how do you measure “desire”? “reasonable” wages”? A “member of the labor force”? Is a part-time job a “job” that is desired?

In the US, the civilian labor force is the sum of the (non-institutionalized) population 16 or over who either have a job or have looked actively for one within the last month. Those holding part-time jobs, even if they would prefer a full-time job, are counted as employed.

The official unemployment rate is known as “U-3” in official Bureau of Statistics language. See the link <http://www.bls.gov/news.release/empsit.t15.htm> for alternative measures which include part time and discouraged workers.

Note that the supply curve of labor shifts when the job search behavior of people changes – as we enter a recession, those who drop out of active job search because they are discouraged do not count as “unemployed.” As we exit a recession, those who were discouraged re-enter the labor market, making it possible for the unemployment rate to rise during a recovery if they don't immediately find a job.

The “opportunity cost” of holding a job is the leisure given up to hold one.

## Problems - Chapter 5 - 2

### Problem 3. Recession

Note that the generally accepted definition of “recession” is that of contractions as defined by the National Bureau of Economic Research. See <http://www.nber.org/cycles/recessions.pdf> for more detail. Contractions begin as soon as the economy starts to turn down (even if times do not seem very bad), and end as soon as the economy starts to turn up (even if times still seem quite bad).

Note that we cannot look at a single indicator, such as GDP or unemployment, to determine recession, because they do not always move together. In fact, unemployment typically does not rise until a recession is well underway, and typically does not start to fall until the recovery is well underway. Businesses will not be sure at the start of a recession that the slump will last, and won't fire workers who may need to be rehired next month. Businesses cannot be sure at the end of a recession that it is really coming to an end, and will wait till they are sure before beginning to rehire.

See my “Recession and Recovery” topic on the course home page for more detail. As of September 2010, the NBER had decided that the current recession began in December 2007. There was very little sense that we were in a downturn until at least June of 2008 (and six months is a long time in macroeconomics). The unemployment rate was at 5.0 percent in December 2007, 4.8 percent in February 2008, and 5.0 percent in April 2008.

The NBER has not yet declared the recession over, but most macroeconomists think that the recovery will probably be dated as beginning in June or July 2009, when the unemployment rate was 9.5 percent (falling to 9.4 in July, but then rising to 9.7 percent in August and its height of 10.1 percent in January 2010). As of August 2010, the unemployment rate was still a very high 9.6 percent.

The NBER looks at the following indicators in calling a “contraction” or “recovery”:

- Employment rather than unemployment (the establishment survey is more accurate than the household survey, and employment began falling in January 2001 from 143.19 million, hit a low of 137.79 million in December 2009, and has since risen to 139.25 million.
- Real personal income (excluding transfers such as Social Security and unemployment insurance) was 9.990 trillion in Dec. 2007, hit a high of 10.093 trillion in January of 2009 (so it didn't feel much like a recession the first year), and a low of 10.046 trillion in October of 2009. In September of 2010, real personal income was not much higher – 10.236 trillion. (these numbers include transfers).
- Real (inflation-adjusted) Gross Domestic Product (which began turning up in 2009, Q.2 – June, July, August) Note that real personal income did not rise until after October 2009).
- Sales of manufactured goods and wholesale sales. The Industrial Production Index turned down in December 2007, and fell from 100.47 in that month to a low of 85.51 in June of 2009. Since then, it has risen to 93.40 in July of 2010 – not back to normal, but rising.

## Problems – Chapter 5 - 3

### Problem 4. Employment declines, output rises.

The end of the recession phase is often characterized by this apparent paradox. Note from the last problem that employment continued to decline from June 2009 to December 2009, while output was rising.

Some **labor hoarding** always goes on during a recession – businesses are reluctant to let experienced workers go, since they would have to hire and train new workers when times get better.

As a result, the early stages of a recovery are characterized by fuller employment of the current workforce, and even perhaps by a decline in the workforce from new retirements, rather than the actual hiring of new workers.

Also, while firms are still not certain that a recovery is in process, they may prefer to offer overtime to the current workforce rather than make new hires of people who will require training.

### Problem 5. Economy of Pennsylvania.

#### Data sources:

<http://www.bls.gov/lau/> for local area unemployment, including metropolitan areas, and for the alternative unemployment rates.

<http://www.bls.gov/web/laus/mstrtrcr1.gif> for a picture of unemployment rates by state.

<http://www.bls.gov/web/metro/laummtrk.htm> for ranking of metro areas, from Bismarck, ND with unemployment rate of 3.1 percent (for July, 2010) to Yuma, AZ with an unemployment rate of 28.7 percent (Altoona at 8.1 percent, Johnstown at 10.4 %, Pittsburgh at 8.5 %, Phila. 9.7 %)

<http://www.bea.gov/regional/gdpmap/GDPMap.aspx> is a map of Gross Domestic

Product by state, and will give growth rates as well as levels, and per capita GDP.

<http://www.bea.gov/regional> will allow you to link to tables.

### Problem 7. Deficit reduction in a recession.

Clinton's 1993 proposals for deficit reduction were opposed by those who thought that the recession that began in 1991 was still going on (unemployment had not returned to normal), and that “contractionary fiscal policy” (higher taxes and budget cuts) would make the problems worse. In fact, a recovery was underway and the deficit reduction (and in Clinton's last years, budget surplus) did not have a negative effect.

### Problem 8. War and Expansion.

Wars mean much higher government spending and hence GDP growth; they also mean much less unemployment (draftees are no longer unemployed). Whether they mean higher standards of living is another matter:

	1929	1933	1941	1945
Real GDP	977.0	716.4	1366.1	2012.4 [Gross Domestic Product]
Real PCE	736.6	601.1	913.6	1001.4 [Personal Consumption]
Real GPDI	101.7	18.9	146.7	74.7 [Private Investment]
Govt. spending	146.5	157.2	407.7	1402.2

Note that more than all of the increase in real GDP from 1941 to 1945 was due to government spending; personal consumption expenditures (PCE) did grow, but Gross Private Domestic Investment (GPDI) shrank.

### Problem 9. Purchasing power of the dollar in 1941.

Go to <http://measuringworth.com> and check out their “Purchasing Power - \$” calculator.

The 5 cents it took to buy a soda in 1941 is 73 cents in 2009 dollars, and the house which was \$ 10,000 1941 dollars would be \$ 146,000 dollars. Average weekly income in 1941 in manufacturing (higher than overall average) was \$ 29.48, in 2010 it is \$ 640. Prices have increased by a factor of 15, but wages have gone up by a factor of more than 20 in manufacturing. (Data from Historical Statistics, BEA and BLS)