Chapter Summary

In this chapter, we continued our introduction to the basic concepts of macroeconomics and explored the nature of both unemployment and inflation. We also looked at the complex issues involved in measuring unemployment and inflation as well as the costs of both to society. Here are the main points of the chapter:

- **The unemployed** are individuals who do not have jobs but who are actively seeking employment. The labor force comprises both the employed and the unemployed. The unemployment rate is the percentage of the labor force that is unemployed.

\[
\text{unemployment rate} = \frac{\text{unemployed}}{\text{labor force}} \times 100
\]

- Economists distinguish among different types of unemployment. Seasonal patterns of economic activity lead to seasonal unemployment. There are three other types of unemployment. Frictional unemployment occurs through the normal dynamics of the economy as workers change jobs and industries expand and contract. Structural unemployment arises because of a mismatch of workers’ skills with job opportunities. Cyclical unemployment occurs with the fluctuations in economic activity.
- Unemployment rates vary across demographic groups. Alternative measures of unemployment take into account individuals who would like to work full time, but who are no longer in the labor force or are holding part-time jobs.
- Economists measure changes in the cost of living through the Consumer Price Index (CPI), which is based on the cost of purchasing a standard basket of goods and services. The CPI is used to measure changes in average prices over different periods of time. The CPI index for a given year, say year K, is defined as

\[
\text{CPI in year } K = \frac{\text{cost of basket in year } K}{\text{cost of basket in base year}} \times 100
\]

- We measure inflation as the percentage change in the price level.
- Economists believe that most price indexes, including the CPI and the chain-weighted index for GDP, overstate true inflation because they fail to capture quality improvements in goods and services.
- Unemployment imposes both financial and psychological costs on workers.
- Both anticipated and unanticipated inflation impose costs on society.
Applying the Concepts

After reading this chapter, you should be able to answer these four key questions:
1. What do the recent data show about trends in the percentage of women who are working?
2. Does more liberal disability insurance decrease measured unemployment?
3. Are you less upset from being unemployed if unemployment is common in your peer group?
4. How large is the bias in the CPI due to not immediately incorporating new goods?

6.1 Examining Unemployment

Understanding the following key terms related to unemployment measurement is critical to computing unemployment statistics:
- **Employed**: People who have jobs
- **Unemployed**: People who don’t have jobs, but are seeking work
- **Labor Force**: The employed plus the unemployed

Within these definitions, we can compute the following unemployment statistics:

<table>
<thead>
<tr>
<th>Key Equations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Labor Force = Employed + Unemployed</td>
</tr>
<tr>
<td>Unemployment rate = ( \frac{\text{Unemployed}}{\text{Labor Force}} \times 100 )</td>
</tr>
<tr>
<td>Labor Force Participation Rate = ( \frac{\text{Labor Force}}{\text{Population over 16 years old}} \times 100 )</td>
</tr>
</tbody>
</table>

The labor force participation rate measures the percentage of the civilian population over age 16 who are participating in the labor force. To understand these measurement relationships, consider Figure 6.1. In February 2010, approximately 65 percent of the working population participated in the labor force. The unemployment rate was 9.7 percent, equal to the 14,871,000 unemployed divided by the 153,512,000 in the labor force.

In Figure 6.2, we can see other developed nations’ unemployment rates.

<table>
<thead>
<tr>
<th>Caution!</th>
</tr>
</thead>
<tbody>
<tr>
<td>The unemployment rate measures the percentage of the labor force that is unemployed, not the percentage of the civilian population over 16 years old.</td>
</tr>
</tbody>
</table>
Study Tip

The best way to understand unemployment statistics is to practice problems using the equations above. Now would be a good time to try some practice problems, either those at the end of this chapter or from myeconlab.com.

Let’s review an Application that answers one of the key questions we posed at the start of the chapter:

1. What do the recent data show about trends in the percentage of women who are working?

APPLICATION 1: AFTER GROWING SHARPLY, WOMEN’S LABOR FORCE PARTICIPATION HAS LEVELLED OFF

In 1948, the labor force participation rate for women 20 years and older was 32 percent. By 1970, it had grown to 43 percent, and by 1997 it had reached 60 percent. But since 1997, the figure has remained virtually constant at 60 percent. Women still provide more household services than men, and this takes time away from participating in the labor force. While technology has made it possible for women to expand their participation in the workforce, devoting time to household activities means less time for careers for women than men.

We need to look beyond the statistics to understand why people choose not to participate in the workforce. Remember, these individuals are not counted in the unemployment rate since they are neither working nor seeking work. Examples include discouraged workers and marginally attached workers. **Discouraged workers** are workers who left the labor force because they could not find jobs. Marginally attached workers are individuals who would like to work, have searched for work in the recent past, but have stopped looking for work for a variety of reasons. Some workers may be employed but are settling for part-time work when they really want full-time work. We can see from Figure 6.3, the official statistics for unemployment do not include the full range of individuals who would like to participate fully in the labor market. The statistics provide us information about unemployment, but we need to look beyond the numbers to understand what is happening in the labor force and the working population.

Let’s review an Application that answers one of the key questions we posed at the start of the chapter:

2. Does more liberal disability insurance decrease measured unemployment?

APPLICATION 2: MORE DISABILITY, LESS UNEMPLOYMENT?

The federal Disability Insurance program provides income and health care to nonelderly workers who are deemed unable to engage in substantial employment. After 1984, when the guidelines were changed to make it easier to enter this program, economists estimated that the effect of the Disability Insurance program was very large, lowering the measured unemployment rate by 0.5 percent. The reduced unemployment comes because the workers receiving disability are no longer considered part of the labor force.

6.2 Categories of Unemployment

**Cyclical unemployment** is unemployment that occurs during fluctuations in real GDP. People fired during a recession become cyclically unemployed. As real GDP decreases, cyclical unemployment increases. **Frictional unemployment** is unemployment that occurs with the normal workings of the economy, such as workers taking time to search for suitable jobs and firms taking time to search for qualified employees. For example, when you finish college, you may not take the first job that you are
offered. You may look for something better. You would be considered frictionally unemployed. Structural unemployment occurs when there is a mismatch of skills and jobs. There may be plenty of biotechnology jobs in the job market, but unfortunately you got your degree in an unrelated field. This would be a mismatch with the existing jobs and the skills of the workers.

Another type of unemployment was discussed in the previous section. This would be seasonal unemployment. Seasonal unemployment is the component of unemployment attributed to seasonal factors. Examples of seasonal employment include golf courses, ski resorts, professional sports, and big game hunting, to name a few.

The natural rate of unemployment is the unemployment rate that exists when there is no cyclical unemployment. Frictional and structural unemployment still exist, so the natural rate of unemployment is not zero. An economy is considered at full employment when the unemployment rate is at the natural rate of unemployment. We explore this concept further in Chapter 7.

6.3 The Costs of Unemployment

The main cost of unemployment is lowered output and income. When the economy produces less than potential GDP during a year, that output is lost forever. Similarly, the income workers would have earned producing that output is also lost. Full employment means the labor force has no cyclical unemployment and actual real GDP equals potential real GDP. Over time, unemployed workers may lose skills making jobs harder to find. Table 6.1 shows the duration of unemployment in February, 2010. Lastly, there are psychological costs to being unemployed. People may experience depression, divorce, and criminal activity due to a loss of work. At the most extreme, economists have noted the suicide rate tends to rise and fall with the unemployment rate. Unemployment insurance is payments unemployed people receive from the government. Such payments are designed to alleviate hardships caused by unemployment.

Let’s review an Application that answers one of the key questions we posed at the start of the chapter:

3. Are you less upset from being unemployed if unemployment is common in your peer group?

APPLICATION 3: SOCIAL NORMS, UNEMPLOYMENT, AND PERCEIVED HAPPINESS
Economist Andrew Clark examined the perceptions and behavior of the unemployed in Great Britain over a seven year period. While unemployment lowered happiness, the decrease was less for men if others in their peer group were also unemployed. Along with this Young found that the more unhappy a person was the more effort they put into looking for work. This suggests that when many in your peer group are also unemployed, you may put less effort into finding work, and thus stay unemployed longer.

6.4 The Consumer Price Index and the Cost of Living

The study of prices and price indices such as the Consumer Price Index is an extension of the real-nominal principle.

Real-Nominal Principle
What matters to people is the real value of money or income—its purchasing power—not the face value of money or income.
The **Consumer Price Index** or CPI is a price index measuring prices of a fixed basket of goods chosen to represent the consumption pattern of a typical consumer. Figure 6.5 shows the basket of goods used to calculate the CPI. The equation for the CPI is:

**Key Equation**

\[
\text{CPI in year } K = \frac{\text{cost of basket in year } K}{\text{cost of basket in base year}} \times 100
\]

Other price indices use the same basic formula as the CPI except for the GDP deflator. Since 1996, the Commerce Department has used a chain-weighted index replacing the GDP deflator to measure changes in prices for goods and services included in GDP. The chain-weighted index for GDP and the CPI are both measures of average prices for the economy, yet they differ in two ways:

1. The CPI measures consumer prices, while the chain-weighted index measures the average price of output (not just consumption spending). The chain-weighted price index for GDP does not measure price changes from either used goods or imports. However, the CPI measures the average price of spending on consumer goods, including imported goods purchased by consumers.
2. Unlike the chain-weighted price index for GDP, the CPI asks how much a *fixed* basket of goods costs in the current year compared to the cost of those same goods in a base year.

**Study Tip**

Notice that whatever base year you choose for your index, it is 100 on your index. To start your index, your year \(K\) is the same as the base year. Since the numerator and the denominator are the same, they equal one. This value is multiplied by 100 to equal 100.

**Caution!**

Price indices are based on a base year, while inflation rates are computed by comparing prices to the previous year. Inflation rates are annual percentage rates of increases in price levels, thus are based on what happened in the previous year.


Most economists believe that in reality all the indexes, including the chain-weighted index for GDP and the CPI, overstate actual changes in prices. In other words, the increase in prices is probably less than the reported indexes tell us. Changes in price indices are usually overstated, due to difficulty in measuring quality improvements and introducing new products.

Quality improvements, such as high definition plasma televisions or incorporating GPS systems in cars, may inflate the price of the goods in the basket. For example, a new car today costs around $28,000. About ten years ago, a new car probably cost around $20,000. The CPI indicates the price of a new car
has increased by 40 percent in only ten years, but that price increase does not take into account that today’s cars have better safety features, better gas mileage, and better computerized equipment than they did ten years ago. Therefore, the CPI overstates the price increase in cars and similar products that have had significant quality improvements. New products such as cell phones, E-mail, iPods, and DVD players were not in the CPI back in the 1970s. When these products were introduced, their costs would abnormally inflate the CPI. On the other hand, removal of goods, such as 8-track stereos, CB radios, and Beta video recorders, that consumers no longer purchase, may affect the CPI. (Ask your parents what these items are if you have questions.)

Since many government payments and union contracts adjust for inflation, they use the CPI to approximate the cost of living. Cost-of-living adjustments, or COLAs, are automatic increases in wages or other payments that are tied to the CPI. Cost-of-living adjustments are often overestimated since they use the CPI. This results in higher government payments and labor costs.

Let’s review an Application that answers one of the key questions we posed at the start of the chapter:

4. How large is the bias in the CPI due to not immediately incorporating new goods?

APPLICATION 4: THE INTRODUCTION OF CELL PHONES AND THE BIAS IN THE CPI

Though popular for many years, cell phones were not incorporated into the CPI until 1998. Jerry Hausman of M.I.T. estimated that because cell phones were not included, the telecommunications portion of the CPI was overstated (biased upwards) by between 0.8 and 1.9 percent. Because of this, even if telecommunication prices were falling, the CPI may have indicated that they were increasing.

6.5 Inflation

The inflation rate is the percentage rate of change in the price level. As such, inflation rates are always measured in relation to prior years. The inflation rate is computed as shown in the following key equation:

**Key Equation**

\[
\text{Inflation Rate} = \frac{\text{CPI}_{cy} - \text{CPI}_{py}}{\text{CPI}_{py}} \times 100 \%
\]

where “cy” is the current year and “py” is the previous year.

For example, suppose that the CPI for 2005 was 110 and the CPI for 2006 was 120. Using the key equation above:

\[
\frac{\text{CPI}_{2006} - \text{CPI}_{2005}}{\text{CPI}_{2005}} = \frac{120 - 110}{110} = \frac{10}{110} = 0.0909 \text{ or } 9.09\%
\]

Figure 6.6 shows historical U.S. inflation rates. Notice what happened after 1975. During this period of time, inflation grew dramatically due to the increase in oil prices as OPEC cut production of oil. Another reason for the increases in the price level is the excessively large increase in the growth rate of the money supply.
Caution!

Price indices are based on a base year, while inflation rates are the year-to-year percentage change in the price index.

Deflation happens when there is negative inflation or falling prices of goods and services. At first this may not sound like a bad thing, but it may produce adverse effects. Consider the Great Depression. Prices fell 33 percent on average, and wages fell along with prices. The biggest problem caused by a deflation is that people cannot repay their debts.

Suppose you bought a car for $12,000. You take out a loan to pay off your car in 5 years. With deflation, your wages and prices drop. But the financing of the loan is still fixed and doesn’t adjust with the price drop. Your wages come down and now your car may be repossessed as you can’t make the payments due to your lower income. People with fixed debts are especially at risk with a price deflation. Yet some debt is set up to account for inflation. Adjustable rate mortgages, or ARMs, take into account inflation or deflation and adjust according to what is happening with prices.

6.6 The Costs of Inflation

The costs of inflation can be broken into two types of costs, anticipated and unanticipated. Let’s explore what costs are associated with anticipated inflation, inflation that is expected, and unanticipated inflation, inflation that is not expected.

Anticipated inflation costs include menu costs, shoe-leather costs, and distortions to the financial and tax system. Menu costs are costs associated with changing prices and printing new price lists when there is inflation. Firms take on additional costs to change menus or advertising their goods and services when prices change. Another anticipated cost of inflation happens when people hold less money due to inflation. These costs are called shoe-leather costs. The cost of holding money is the loss of purchasing power as inflation increases. In order to prevent losing wealth, they put their money into something that earns a rate of return so they don’t lose their wealth. There may be transaction costs associated with decreasing money balances.

The term shoe-leather cost is an old term describing how people went about reducing or increasing their money balances. Before the use of online banking and computerized banking transactions, people had to physically go to the bank and withdraw money or deposit checks. They wore out the leather on their shoes going to the bank to get more money. Hence the term shoe-leather cost.

Lastly, the tax system is distorted due to inflation. In practice, our tax and financial systems do not fully adjust even to anticipated inflation. It is difficult for the government and businesses to change their normal rules of operation every time inflation changes. Our tax system is typically based on nominal income, not real income. Suppose you own a stock in a corporation that increases by 5 percent during the year. If the inflation rate is also 5 percent a year, your stock did not increase in real terms—it just kept up with inflation. Nonetheless, if you sold your stock at the end of the year, you would be taxed on the full 5 percent gain, despite the fact that the real value of your stock did not increase. Inflation distorts the operation of our tax and financial system.
Unanticipated costs cause arbitrary income redistributions. The following textbook example is excellent in understanding these types of redistribution costs. Suppose you live in a very safe neighborhood where no one locks the doors. If a rash of burglaries (transfers between you and the crooks) starts to occur, people will invest in locks, alarms, and more police. You and your community will incur real costs to prevent these arbitrary redistributions. The same is true for unanticipated inflation. If a society experiences unanticipated inflation, individuals and institutions will change their behavior. Some people will gain from the redistribution and some will lose from the redistribution.

What about the loans made prior to the unanticipated inflation? In this case, debtors will gain at the expense of creditors. Creditors, on the one hand, will lose because inflation will erode the amount of money they planned to earn on the loans. But since the loans have already been made, there’s nothing they can do about it. Debtors, on the other hand, will get a deal. It will be easier for them to repay their loans with inflated dollars. If unanticipated inflation becomes extreme, individuals will spend more of their time trying to profit from inflation rather than working at productive jobs. Speculation starts to overtake production of goods and services, causing an economic slowdown.

An extreme form of inflation is called hyperinflation. Hyperinflation happens when the inflation rate exceeds 50 percent per month. The cost of hyperinflation is that prices increase so much that markets become ineffective in allocating goods and resources. Money loses its value and markets fail. Trading goods for goods may still occur, but the economy loses efficiency. We will discuss hyperinflation in more detail in Chapter 16.

Let’s try an activity that gives you practice in creating a CPI and inflation rates.

**Activity**

The table below gives information on the cost of a fixed basket of goods for the years 2002–2006. From the price information, compute the CPI and the inflation rates for each of the years. Assume the base year is 2002.

<table>
<thead>
<tr>
<th>Year</th>
<th>Cost of Bundle of Consumer Goods</th>
<th>CPI</th>
<th>Inflation Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>2002</td>
<td>$1000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2003</td>
<td>$1200</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2004</td>
<td>$1400</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2005</td>
<td>$1300</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2006</td>
<td>$1500</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Answers

Calculating the CPI

Remember the base year is 2002, so all prices will be compared to 2002 prices. Using the following equation:

\[
\text{CPI in year } K = \frac{\text{cost of basket in year } K}{\text{cost of basket in base year}} \times 100.
\]

We can compute the following CPI:

- **2002:** \[
\text{CPI in year 2002} = \frac{\text{cost of basket in year } 2002}{\text{cost of basket in base year, 2002}} \times 100 = \frac{1000}{1000} \times 100 = 100
\]

- **2003:** \[
\text{CPI in year 2003} = \frac{\text{cost of basket in year } 2003}{\text{cost of basket in base year, 2002}} \times 100 = \frac{1200}{1000} \times 100 = 120
\]

- **2004:** \[
\text{CPI in year 2004} = \frac{\text{cost of basket in year } 2004}{\text{cost of basket in base year, 2002}} \times 100 = \frac{1400}{1000} \times 100 = 140
\]

- **2005:** \[
\text{CPI in year 2005} = \frac{\text{cost of basket in year } 2005}{\text{cost of basket in base year, 2002}} \times 100 = \frac{1300}{1000} \times 100 = 130
\]

- **2006:** \[
\text{CPI in year 2006} = \frac{\text{cost of basket in year } 2006}{\text{cost of basket in base year, 2002}} \times 100 = \frac{1500}{1000} \times 100 = 150
\]

To calculate the inflation rates, use the following equation:

\[
\text{Inflation Rate} = \% \text{ change in the price level} = \frac{\text{CPI}_{cy} - \text{CPI}_{py}}{\text{CPI}_{py}}
\]

where “cy” is the current year and “py” is the previous year.

Based on our information, there is no change in 2002. The inflation rate would be zero. Inflation rates for the other years are calculated as follows:

- **Inflation rate for 2003:** \[
\frac{\text{CPI}_{2003} - \text{CPI}_{2002}}{\text{CPI}_{2002}} = \frac{120 - 100}{100} = \frac{20}{100} = 0.20 \text{ or } 20\%
\]

- **Inflation rate for 2004:** \[
\frac{\text{CPI}_{2004} - \text{CPI}_{2003}}{\text{CPI}_{2003}} = \frac{140 - 120}{120} = \frac{20}{120} = 0.167 \text{ or } 16.7\%
\]

- **Inflation rate for 2005:** \[
\frac{\text{CPI}_{2005} - \text{CPI}_{2004}}{\text{CPI}_{2004}} = \frac{130 - 140}{140} = \frac{-10}{140} = -0.0714 \text{ or } -7.14\%
\]

- **Inflation rate for 2006:** \[
\frac{\text{CPI}_{2006} - \text{CPI}_{2005}}{\text{CPI}_{2005}} = \frac{150 - 130}{130} = \frac{20}{130} = 0.154 \text{ or } 15.4\%
\]
Key Terms

**Anticipated inflation:** Inflation that is expected.

**Consumer Price Index (CPI):** A price index that measures the cost of a fixed basket of goods chosen to represent the consumption pattern of a typical consumer.

**Cost-of-living adjustments (COLAs):** Automatic increases in wages or other payments that are tied to the CPI.

**Cyclical unemployment:** Unemployment that occurs during fluctuations in real GDP.

**Deflation:** Negative inflation or falling prices of goods and services.

**Discouraged workers:** Workers who left the labor force because they could not find jobs.

**Frictional unemployment:** Unemployment that occurs with the normal workings of the economy, such as workers taking time to search for suitable jobs and firms taking time to search for qualified employees.

**Full employment:** The level of unemployment that occurs when the unemployment rate is at the natural rate.

**Hyperinflation:** An inflation rate exceeding 50 percent per month.

**Inflation rate:** The percentage rate of change in the price level.

**Labor force:** The total number of workers, both the employed and the unemployed.

**Labor force participation rate:** The percentage of the population over 16 years of age that is in the labor force.

**Menu costs:** The costs associated with changing prices and printing new price lists when there is inflation.

**Natural rate of unemployment:** The level of unemployment at which there is no cyclical unemployment. It consists of only frictional and structural unemployment.

**Seasonal unemployment:** The component of unemployment attributed to seasonal factors.

**Shoe-leather costs:** Costs of inflation that arise from trying to reduce holdings of cash.

**Structural unemployment:** Unemployment that occurs when there is a mismatch of skills and jobs.
Unanticipated inflation: Inflation that is not expected.

Unemployment insurance: Payments unemployed people receive from the government.

Unemployment rate: The percentage of the labor force that is unemployed.

Practice Quiz

(Answers are provided at the end of the Practice Quiz.)

1. Which of the following individuals are included in the labor force?
   a. Anyone who is 16 years of age or older and capable of working
   b. Those who are employed and those who are unemployed
   c. The employed and anyone who could potentially fill a job, but may not be currently interested in working
   d. Anyone who is employed, unemployed workers, and discouraged workers—those who are not looking for work

2. The ratio of the labor force to the adult population is known as
   a. the employment rate.
   b. the unemployment rate.
   c. the labor force participation rate.
   d. the population rate.

3. This question tests your understanding of Application 1 in this chapter: After growing sharply, women’s labor force participation has leveled off. What do the recent data show about trends in the percentage of women who are working?

   “In 1948, the labor force participation rate for women 20 years and older was 32 percent. By 1970, it had grown to 43 percent, and by 1997 it had reached 60 percent. But since 1997, the figure has remained virtually constant at 60 percent.”

   What is a possible explanation as to why the women’s labor force participation has reached a peak in the United States?
   a. It appears that advances in technology have displaced many workers, in particular women, who are less and less able to find jobs.
   b. It appears that women simply have run out of time available to increase their hours of work.
   c. The reason is that a new trend is evolving, where more and more women are choosing once again to exit the labor force and become the primary caretakers of their households.
   d. It appears that men and women today are competing for similar jobs and, as the labor force participation rate of men increases, the labor force participation rate of women decreases.
4. Refer to the figure below. The chart below shows employment data for May 2008. Group 2 equals

- a. the adult population.
- b. adults in the labor force.
- c. adults not in the labor force.
- d. the employed.

5. Refer to the figure below. As a result of a severe and prolonged recession, the number of discouraged workers increases. Which groups below are affected?

- a. Group 4 only
- b. Groups 2, 3, 4, and 5
- c. Groups 3 and 5 only
- d. Groups 3 and 4 only

6. In 2008, unemployment rates in developed countries around the world
- a. showed substantial variations.
- b. were quite similar.
- c. were the lowest they have been in 25 years.
- d. revealed that lack of government support for the unemployed leads to higher unemployment rates.

7. When you add discouraged workers, other marginally attached workers, and individuals working part-time for economic reasons, measured unemployment
- a. increases but only slightly.
- b. increases substantially.
- c. actually decreases slightly.
- d. remains the same.
8. The unemployment that occurs with the normal workings of the economy, such as workers taking time to search for suitable jobs and firms taking time to search for qualified employees, is called
   a. cyclical unemployment.
   b. frictional unemployment.
   c. structural unemployment.
   d. seasonal unemployment.

9. Which of the following about unemployment insurance is FALSE?
   a. Unemployment insurance is typically only temporary.
   b. Unemployment insurance rarely replaces a worker’s full earnings.
   c. Unemployment insurance actually helps to reduce the time spent unemployed.
   d. All of the above statements are false.

10. If the cost of a market basket in 1992, the base year, is $200, and the cost of the same market basket in 2008 is $300, what is the CPI in 2008?
    a. 0.50
    b. 50%
    c. 150
    d. 67%

11. Both the CPI and the chain index for GDP are measures of the average prices for the economy, yet they differ in several ways. Which of the following statements is correct?
    a. The CPI includes goods produced in prior years, as well as imported goods, while the chain price index does not.
    b. Both the chain price index for GDP and the CPI ask how much a fixed basket of goods costs in the current year compared to the base year.
    c. Both assertions above are correct.
    d. Neither assertion above is correct.

12. The percentage rate of change in the price level is the definition of
    a. the consumer price index (CPI).
    b. the chain-weighted price index for GDP.
    c. the inflation rate.
    d. cost-of-living-adjustments (COLAs).

13. Which of the following is true about the history of U.S. inflation rates?
    a. The price level has increased at a relatively constant rate ever since 1875.
    b. The price level grew steadily before World War II, then it stabilized and has grown at a constant rate ever since.
    c. After remaining relatively flat for 60 years, the price level began to steadily increase after World War II.
    d. Between 1875 and World War II, the price level was highly volatile. After World War II, the price level began to decline steadily.

14. A sustained decrease in the average level of prices and wages in the economy
    a. is considered desirable.
    b. is thought to be impossible.
    c. is called disinflation.
    d. is called deflation.
15. What is the impact of unanticipated inflation?
   a. None. If inflation is unanticipated, it has no impact on the economy.
   b. Unanticipated inflation makes everyone in the economy worse off.
   c. Unanticipated inflation makes everyone in the economy better off.
   d. Unanticipated inflation creates arbitrary redistributions of income.


17. Unanticipated inflation is worse than anticipated inflation. Explain.

18. Explain the meaning of full employment.

19. Beyond the loss of income, what are the costs of unemployment to the individual and to society as a whole?
Answers to the Practice Quiz

1. b. The unemployed are those individuals who do not currently have a job but who are actively looking for work. The employed are individuals who currently have jobs. The employed plus the unemployed comprise the labor force.

2. c. This ratio shows the number of adults in the population who choose to participate in the labor force.

3. b. It appears that women’s labor force participation has reached a peak in the United States. One explanation for this trend is that women may simply have run out of available time. With the advent of new technologies, women could increase their labor force participation yet still take primary care of their households. But even with new technology, housework and childcare do take time. Because women provide more household services than men, it is understandable why their labor force participation may have reached a peak.

4. b. This group comprises the people who are employed and the people who are unemployed, and therefore represents adults in the labor force.

5. b. Group 3 will decrease, group 4 will increase, and a severe and prolonged recession will also increase the number of discouraged workers who fall out of the labor force, thereby increasing group 5. As the number of people in group 5 increases, there are fewer people in group 2.

6. a. There are substantial variations in unemployment around the world.

7. b. Measured unemployment increases substantially. Depending on the statistic you want to emphasize, the unemployment rate could vary from the official 5.8% to as much as 9.4%.

8. b. Frictional employment occurs naturally during the normal workings of the economy. It occurs because it takes time for people to find the right jobs and for employers to find the right people to hire.

9. c. Unemployment insurance may actually lead to additional time spent unemployed.

10. c. \( \text{CPI}_{2008} = \frac{300}{200} \times 100 = 150 \)

11. a. The CPI includes goods produced in prior years, as well as imported goods, while the chain price index does not. Also, unlike the chain price index for GDP, the CPI asks how much a fixed basket of goods costs in the current year compared to the base year.

12. c. The percentage rate of change in the price level is the inflation rate.

13. c. The Price Index for U.S. GDP, 1875–2005, shows that after remaining relatively flat for 60 years, the price level began to steadily increase after World War II.

14. d. Deflation refers to a sustained decrease in the average level of prices and wages in the economy. Deflation is undesirable. The biggest problem caused by decreasing prices and wages is that people cannot repay their debts, which do not fall with deflation.
15. d. The cost of unexpected or unanticipated inflation is arbitrary redistributions of income. Inflation creates winners and losers. These redistributions impose real costs on the economy. If a society experiences unanticipated inflation, individuals and institutions will change their behavior.

16. The underemployed are workers who hold a part-time job but prefer to work full time or hold jobs that are far below their capabilities. Underemployment may occur during recessions, when jobs are hard to find and people may decide to take whatever they can find. But more importantly, underemployment is a structural phenomenon. The economy may have many jobs available, but the skills of the underemployed don’t match the skills required to fill those vacancies. Engineers who can’t find engineering jobs, for example, may have to take jobs as teachers or taxi drivers.

17. When banks do not anticipate inflation correctly, for example, and inflation turns out to be higher than anticipated, they will issue loans at nominal interest rates that are too low. If nominal interest rates did not anticipate the higher inflation rate, then borrowers pay back loans in “cheaper dollars.” Therefore, unanticipated inflation hurts lenders and benefits borrowers. In general, any decision involving an expectation of inflation that is incorrect will throw the model of information off. If economic agents use all information available to make their decisions, an unexpected increase in the rate of inflation will cause them to make incorrect decisions.

18. Full employment is the level of employment that occurs when the unemployment rate is at the natural rate. The natural rate of unemployment is the level of unemployment at which there is no cyclical unemployment. When the economy operates at full employment, it produces the natural or potential level of output, or the output that can be produced when resources are fully employed. Full employment is associated with a normal (not a maximum) rate of capacity utilization. In addition, full employment does not mean that the unemployment rate equals zero. In the United States, economists estimate that the natural rate of unemployment is between 5.0% and 6.5%. The natural rate of unemployment consists of only frictional and structural unemployment. Some frictional unemployment is needed for the economy to operate efficiently.

19. The loss of income is not the only important consequence of unemployment. Unemployed individuals also lose their self-esteem and have a greater tendency for social deviance. Crime, drug abuse, suicide, and mental illness tend to increase during periods of high unemployment. The social cost of unemployment is not only the cost of the output lost as a result of it, but also the cost of psychological damage to unemployed workers.