CHAPTER

28

Unemployment

Goals

In this chapter you will

- Learn about the data used to measure the amount of unemployment
- Consider how unemployment arises from the process of job search
- Consider how unemployment can result from minimum-wage laws
- See how unemployment can arise from bargaining between firms and unions
- Examine how unemployment results when firms choose to pay efficiency wages

Outcomes

After accomplishing these goals, you should be able to

- Use data on the number of employed, unemployed, and not in the labor force to calculate the unemployment rate and the labor-force participation rate
- Explain why some job search unemployment is inevitable
- Diagram the impact of the minimum wage on high-wage and low-wage sectors
- List the reasons why unions cause unemployment, and alternatively, why unions might increase efficiency in some cases
- Describe the four reasons why firms may choose to pay wages in excess of the competitive wage

Strive for a Five

Chapter 28 discusses unemployment, which will be tested on the AP macroeconomics exam. You should specifically be aware of:

- Definition of unemployment and its measurement
- The costs of unemployment
- Types of unemployment
- The natural rate of unemployment
- Problems with measuring the unemployment rate

Although unions, collective bargaining, and efficiency wages are also included in this chapter and are useful and pertinent to the general study of economics, they are not included on the AP exam. Please check with your instructor to confirm which topics and chapters will be covered in your course.

Key Terms

- *Labor force*—The total number of workers, which is the sum of the unemployed and the employed
- *Unemployment rate*—Percentage of the labor force that is unemployed
- *Labor-force participation rate*—Percentage of the adult population in the labor force
- *Natural rate of unemployment*—Normal rate of unemployment about which the unemployment rate fluctuates
- *Cyclical unemployment*—The deviation of the unemployment rate from its natural rate
- *Discouraged workers*—Workers who stop looking for work due to an unsuccessful search
- *Frictional unemployment*—Unemployment due to the time it takes for workers to search for the jobs that best suit their tastes and skills
- *Structural unemployment*—Unemployment that results because the number of jobs available in some labor markets is insufficient for everyone who wants a job to get one
- *Job search*—The process by which workers find appropriate jobs given their tastes and skills
- *Sectoral shifts*—Changes in the composition of demand across industries or regions
- *Unemployment insurance*—A government program that pays laid-off workers a portion of their original salaries
- *Union*—Worker association that bargains with employers over wages, benefits, and working conditions
- *Collective bargaining*—The process by which unions and firms agree on labor contracts
- *Strike*—An organized withdrawal of labor from the firm
- *Insiders*—Those employed in union jobs
- *Outsiders*—Those not employed in union jobs
- *Right-to-work laws*—Legislation that makes it illegal to require union membership for employment
- *Efficiency wages*—Wages voluntarily paid in excess of the competitive equilibrium wage to increase worker productivity

Chapter Overview

Context and Purpose

Chapter 28 is the fourth chapter in a four-chapter sequence on the level and growth of output in the long run. In Chapter 25, we learned that capital and labor are among the primary determinants of output and growth. In Chapter 26, we addressed how saving and investment in capital goods affect the production of output. In Chapter 27, we learned about some of the tools people and firms use when choosing capital projects in which to invest. In Chapter 28, we see how full utilization of our labor resources improves the level of production and our standard of living.

The purpose of Chapter 28 is to introduce you to the labor market. We will see how economists measure the performance of the labor market using unemployment statistics. We will also address a number of sources of unemployment and some policies that the government might use to lower certain types of unemployment.

Chapter Review

Introduction If a country keeps its workers fully employed, it achieves a higher level of GDP than if it leaves many workers idle. In this chapter, we are concerned largely with the *natural rate of unemployment,* which is the amount of unemployment that the economy normally experiences. "Natural" does not mean constant or impervious to economic policy. It means that it is the unemployment that doesn't go away on its own. This chapter addresses the measurement and interpretation of unemployment statistics and some causes and cures for unemployment.

Identifying Unemployment

The Bureau of Labor Statistics (BLS) uses the Current Population Survey to categorize all surveyed adults (age 16 and older) as employed, unemployed, or not in the labor force.

- Employed: worked as paid employees, worked in their own business or family business (full-time or part-time), or had a job but didn't work due to temporary absence.
- Unemployed: not employed but were available for work and looked for work in the last four weeks, or on temporary layoff.
- Not in the labor force: not in previous two categories (student, homemaker, retiree).

BLS then computes:

- Labor force = number of employed + number of unemployed
- Unemployment rate = (number of unemployed/labor force) × 100
- Labor-force participation rate = (labor force/adult pop.) × 100

The labor force is the total number of workers who have made themselves available for work. The unemployment rate is the percent of the labor force that is unemployed. The labor-force participation rate is the percent of the total adult population who are in the labor force. The unemployment rate and the labor-force participation rate vary widely across demographic groups—men, women, black, white, young, old. Women ages 20 and over have lower labor-force participation rates than men, but once in the labor force, they have similar unemployment rates. Blacks and teenagers have higher unemployment rates than whites and older workers. Female labor-force participation is rising while male participation is falling.

The normal rate of unemployment around which the unemployment rate fluctuates is the natural rate of unemployment. The deviation in unemployment from the natural rate is known as cyclical unemployment. In 2007, the natural rate of unemployment in the United States was estimated at 4.8 percent. This chapter is concerned with explaining the characteristics and causes of the natural rate.

Because people move into and out of the labor force so often, unemployment is difficult to measure and interpret. For example, over one-third of the unemployed are recent entrants to the labor force, and almost one-half of all spells of unemployment end

when the unemployed person leaves the labor force. In addition, unemployment may be inaccurately measured because:

- Some people are counted in the labor force but unemployed even though they are only pretending to look for work so that they can collect government assistance or because they are being paid "under the table." This behavior biases the unemployment statistics upward.
- Some people have had an unsuccessful search for a job and have given up looking for work so they are not counted in the labor force. These individuals are called discouraged workers. This behavior biases the unemployment statistics downward.

Because of these and other problems, the BLS calculates alternative measures of labor underutilization, known as U1 through U6. These statistics attempt to measure the impact on the labor market of long-term unemployment, temporary jobs, discouraged workers, part-time workers, and marginally attached workers.

Knowledge about the duration of unemployment spells may help us design corrective policies for unemployment. Evidence suggests that *most spells are short term, but most unemployment at any given time is long term*. This means that many people are unemployed for short periods, but a few people are unemployed for very long periods. Economists think short-term unemployment is much less of a social problem than long-term unemployment.

In most markets, prices adjust to balance supply and demand. In the ideal labor market, wages would adjust so that there would be no unemployment. However, even when the economy is doing well, the unemployment rate never falls to zero. The following sections address four reasons why the labor market falls short of the ideal market. The first source of unemployment we discuss is due to job search. Frictional unemployment is the unemployment that results from the time it takes for workers to search for the jobs that best suit their tastes and skills. The next three sources of unemployment fall within the category of structural unemployment. Structural unemployment is the unemployment that results because the number of jobs available in some labor markets is insufficient for everyone who wants a job to get one. Structural unemployment occurs because the wage is held above the equilibrium wage. Three possible sources of an excessive wage are minimum-wage laws, unions, and efficiency wages. Frictional unemployment tends to explain shorter spells of unemployment while structural unemployment tends to explain longer spells of unemployment.

Job Search

Job search is the process of matching workers and jobs. Just as workers differ in their skills and tastes, jobs differ in their attributes. Moreover, information about jobs disseminates slowly. Therefore, it takes time for job candidates and job vacancies to match. *Frictional unemployment* is due to this search time.

Frictional unemployment is inevitable in a dynamic economy. As the demand for products changes, some industries and regions will experience growth while others will contract. These changes in the composition of demand among industries or regions are called *sectoral shifts.* Sectoral shifts cause temporary frictional unemployment as workers in contracting sectors lose their jobs and search for work in the growing sectors.

Frictional unemployment may be reduced by improved information about job openings provided by the Internet. Government may be able to lower frictional unemployment by engaging in activities that shorten the job search time. Two such programs are (1) government-run employment agencies to help match workers and jobs and (2) worker-training programs to retrain workers laid off from contracting sectors. Critics argue that government is ill suited to do these things and that the market does a more efficient job at matching and retraining.

Unemployment insurance pays laid-off workers a portion of their original salaries for a period of time. Unemployment insurance increases frictional unemployment because unemployed workers are more likely to (1) devote less effort to their job search, (2) turn down unattractive job offers, and (3) be less concerned with job security. This does not mean unemployment insurance is bad. Unemployment insurance does provide the worker partial protection against job loss, and it may improve the efficiency of the job market by allowing workers to search longer for the best job match.

Minimum-Wage Laws

Structural unemployment results when the number of jobs is insufficient for the number of workers. Minimum-wage laws are one source of structural unemployment. Recall that minimum-wage laws force the wage to remain above the equilibrium wage. This causes the quantity of labor supplied to exceed the quantity of labor demanded. There is a surplus of labor or unemployment. Since the equilibrium wage for most workers exceeds the minimum wage, the minimum wage tends to cause unemployment only for the least skilled and least experienced, such as teenagers. Minimum-wage workers tend to be young, less-educated, part-time workers in food services and drinking establishments. Tips supplement their wages.

Although only a small portion of total unemployment is due to the minimum wage, an analysis of the minimum wage points out a general rule: *If a wage is held above the equilibrium level, the result is unemployment*. The next two sections develop two additional reasons why the wage may be held above the equilibrium level. That is, the next two sections provide two additional sources for structural unemployment.

Note that with frictional unemployment, workers are *searching* for the right job even if the wage is at the competitive equilibrium. In contrast, structural unemployment exists because the wage exceeds the competitive equilibrium wage and workers are *waiting* for jobs to open up.

Unions and Collective Bargaining

A union is a worker association that engages in collective bargaining with employers over wages, benefits, and working conditions. A union is a cartel because it is a group of sellers organized to exert market power. If the union and firm fail to reach an agreement, the union can strike—that is, withdraw its labor services from the firm. Because of the threat of a strike, workers in unions earn about 10 to 20 percent more than nonunion workers. Less-educated workers gain a greater financial advantage from union membership than do better-educated workers.

Unions benefit *insiders* (members) at the expense of *outsiders* (nonmembers). When the union raises the wage above the equilibrium wage, unemployment results. Insiders earn higher wages, and outsiders are either unemployed or must take jobs with nonunion firms. This increases the supply of labor in the nonunion sector and lowers the wage further for nonunion workers.

Most cartels are illegal, but unions are exempt from antitrust legislation. Indeed, legislation, such as the Wagner Act of 1935, promotes the establishment of labor unions. Alternatively, state *right-to-work laws* discourage union membership by making it illegal to require union membership for employment.

There is little agreement about whether unions are good or bad for the economy. Critics argue that unions are cartels that raise the price of labor above the competitive equilibrium. This is inefficient (causes unemployment) and inequitable (insiders gain at the expense of outsiders). Supporters of unions argue that firms have market power and are able to depress the wage, so unions are just a counterbalance to the firm's power. This is most likely to be true in a *company town* where one firm hires most of the workers in the region. Supporters also argue that unions are efficient because firms don't have to bargain with individual workers about salary and benefits. That is, unions may reduce transactions costs.

The Theory of Efficiency Wages

The theory of efficiency wages suggests that firms may intentionally hold wages above the competitive equilibrium because it is efficient for them to do so. Efficiency wages are similar to minimum-wage laws and unions because, in all three cases, unemployment results from wages being held above the equilibrium wage. However, an efficiency wage is unusual in that it is paid voluntarily by the firm. Below, we address four reasons why firms may find it efficient (or profitable) to pay a wage in excess of the competitive equilibrium:

- *Worker health* may be improved by paying a higher wage. Better-paid workers eat a better diet and are more productive. This is more applicable to firms in developing nations and is probably not relevant for firms in the United States.

- *Worker turnover* may be reduced by paying a higher wage because workers will find it difficult to find alternative jobs at the higher wage. Firms may find it profitable to reduce worker turnover because there is a cost associated with hiring and training new workers and because new workers are not as experienced.
- *Worker quality* can be improved by paying a higher wage. Firms cannot perfectly gauge the quality of their job applicants. By paying a wage above the competitive equilibrium, firms have a higher probability of attracting a better pool of high-quality applicants for a job opening.
- *Worker effort* may be increased by paying a higher wage. When a worker's effort cannot be easily monitored, workers may shirk their responsibilities. If caught and fired, a worker earning the competitive equilibrium wage can easily find another job at the same wage. Higher wages make workers eager to keep their jobs and work hard.

Helpful Hints

1. Job search takes time even at the competitive equilibrium wage. Minimum-wage laws, unions, and efficiency wages all create an excess supply of labor (unemployment) by holding the wage above the competitive equilibrium wage. Frictional unemployment, however, exists even at the competitive equilibrium wage because it is inevitable that it takes time for workers and firms to match regardless of the wage. For this reason, structural unemployment resulting from the wage being held above the equilibrium wage can often be thought of as additional unemployment beyond the inherent frictional unemployment.

2. The natural rate of unemployment is persistent, not constant. Changes in minimum-wage laws, unions, and efficiency wages and changes in the job-search process due to the information revolution all have an impact on the natural rate of unemployment. Therefore, the natural rate will change as government policies, institutions, and behaviors change. But since policies, institutions, and behaviors change slowly, so does the natural rate of unemployment.

Self-Test

Multiple-Choice Questions

1. The amount of unemployment that an economy normally experiences is called the
   a. average rate of unemployment.
   b. natural rate of unemployment.
   c. cyclical rate of unemployment.
   d. typical rate of unemployment.
   e. full unemployment rate.

2. Which of the following is NOT a type of unemployment?
   a. seasonal unemployment
   b. structural unemployment
   c. frictional unemployment
   d. cyclical unemployment
   e. traditional unemployment

3. Who of the following are included in the Bureau of Labor Statistics' "employed" category?
   (i) retired workers
   (ii) part-time workers
   (iii) workers on vacation
   a. (i) only
   b. (ii) only
   c. (iii) only
   d. (i) and (ii) only
   e. (ii) and (iii) only

4. Which of the following is *not* a requirement for the Bureau of Labor Statistics to place someone in the "unemployed" category?
   a. The person must not have been employed.
   b. The person must not have been fired from his or her previous job.
   c. The person must have tried to find employment during the previous four weeks.
   d. The person must have been available for work.
   e. The person is actively seeking employment.

5. Zeeman is a college student who is not working or looking for a job. The Bureau of Labor Statistics counts Zeeman as
   a. unemployed and in the labor force.
   b. unemployed, but not in the labor force.
   c. in the labor force, but not unemployed.
   d. neither in the labor force nor unemployed.
   e. in the labor force and employed as a full-time student.

6. Matilda just graduated from college. In order to devote all her efforts to college, she did not hold a job. She is going to cruise around the country on her motorcycle for a month before she starts looking for work. Other things constant, the unemployment rate
   a. increases and the labor-force participation rate decreases.
   b. and the labor-force participation rate both increase.
   c. increases and the labor-force participation rate is unaffected.
   d. and the labor-force participation rate are both unaffected.
   e. is unaffected but the labor-force participation rate decreases.

7. The type of unemployment that fluctuates with the "ups and downs" of the economy is called
   a. the normal rate of unemployment.
   b. deviant unemployment.
   c. cyclical unemployment.
   d. fluctuating unemployment.
   e. structural unemployment.

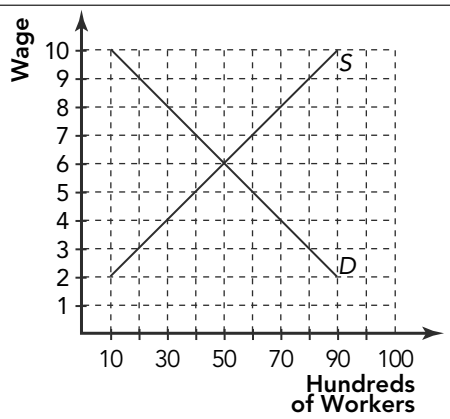
8. Economists agree that the U.S. natural rate of unemployment is approximately
   a. 0.0 percent.
   b. 2.0 percent.
   c. 5.0 percent.
   d. 7.0 percent.
   e. 9.0 percent.

9. Some people who are employed or who are not making serious effort to find employment will report themselves as unemployed. Some people who want to find work will be counted as out of the labor force.
   a. Both the first and the second fact tend to make the reported unemployment rate lower than the actual unemployment rate.
   b. Both the first and the second fact tend to make the reported unemployment rate higher than the actual unemployment rate.
   c. The first fact tends to make the reported unemployment rate higher than the actual unemployment rate, whereas the second fact tends to make the reported unemployment rate lower than the actual unemployment rate.
   d. The first fact tends to make the reported unemployment rate lower than the actual unemployment rate, whereas the second fact tends to make the reported unemployment rate higher than the actual unemployment rate.
   e. Neither fact has any effect on the relationship between the reported unemployment rate and the actual unemployment rate.

10. Unemployment that results because the job skills possessed by those in some labor markets may be insufficient to give a job to everyone who wants one is called
   a. the natural rate of unemployment.
   b. cyclical unemployment.
   c. structural unemployment.
   d. frictional unemployment.
   e. seasonal unemployment.

11. If the natural rate of unemployment is 5.2 percent and the actual rate of unemployment is 5.7 percent, then by definition there is
   a. cyclical unemployment amounting to 0.5 percent of the labor force.
   b. frictional unemployment amounting to 0.5 percent of the labor force.
   c. structural unemployment amounting to 0.5 percent of the labor force.
   d. structural unemployment amounting to 5.7 percent of the labor force.
   e. frictional unemployment amounting to 5.7 percent of the labor force.

Figure 28-1



12. **Refer to Figure 28-1.** If the government imposes a minimum wage of $4, then employment will decrease by
   a. 0 workers.
   b. 2,000 workers.
   c. 3,000 workers.
   d. 4,000 workers.
   e. 5,000 workers.

Free Response Questions

1. Following the recession of 2001, there was a month in which employment and the unemployment rate both rose. Assuming the computations were correct how is it possible for both to have increased?

2. The table below uses data for the year 2003 provided by the Bureau of Labor Statistics and adjusted to be comparable to U.S. data. All values are in thousands. Fill in the blank entries in the table.

Country	Adult Population	Labor Force	Employed	Unemployed	Unemployment Rate	Labor-Force Participation Rate
Japan	109,474		62,510	3,500		
France		26,870		2,577		57.41
Germany	70,159	39,591			9.69	

Solutions

Multiple-Choice Questions

1. b TOP: Natural rate of unemployment
2. e TOP: Cyclical unemployment
3. e TOP: Bureau of Labor Statistics | Employment
4. b TOP: Bureau of Labor Statistics | Unemployment
5. d TOP: Bureau of Labor Statistics | Unemployment | Labor force
6. d TOP: Unemployment rate | Labor-force participation rate
7. c TOP: Natural rate of unemployment
8. c TOP: Natural rate of unemployment
9. c TOP: Unemployment rate
10. c TOP: Structural unemployment
11. a TOP: Cyclical unemployment
12. a TOP: Employment | Minimum wage

Free Response Questions

1. The rate of unemployment is measured as the number of people unemployed divided by the labor force. If the number of people in the labor force rises, but a significant portion of the rise in the labor force is people who are unemployed, then both employment and unemployment could rise.

   (This likely happened because as the economy was improving, more people began seeking employment, but not all immediately found employment.)

   TOP: Employment | Unemployment rate

2.

Country	Adult Population	Labor Force	Employed	Unemployed	Unemployment Rate	Labor-Force Participation Rate
Japan	109,474	66,010	62,510	3,500	5.30	60.30
France	46,804	26,870	24,293	2,577	9.59	57.41
Germany	70,159	39,591	35,755	3,836	9.69	56.43

TOP: Labor-force participation rate | Unemployment rate