



Soochow University International Programs

2021 SCUIP Winter Session I
ECON202



Lecture 4: Unemployment

ECON202: Macroeconomics
Soochow University



Prerequisites

- These are some of the things you need to know to understand today's lecture:
 - Theory of supply and demand (microeconomics)

Unemployment

- The problem of unemployment is usually seen as two separate problems.
 - The long-run problem, and
 - The short-run problem
- The long-run problem focuses on reducing the **natural rate of unemployment**.
- The short-run problem focuses on reducing the **cyclical rate of unemployment**.

Identifying Unemployment

- **Natural Rate of Unemployment**
 - The natural rate of unemployment is unemployment that does not go away on its own even in the long run.
 - It is the amount of unemployment that the economy normally experiences.
 - Today's lecture focuses on the natural rate of unemployment.

Identifying Unemployment (Cont'd)

- **Cyclical Unemployment**
 - Cyclical unemployment refers to the year-to-year fluctuations in unemployment around its natural rate.
 - It is associated with short-term ups and downs of the business cycle.
 - This lecture ignores cyclical unemployment.

Unemployment Facts

- Three Basic Questions:
 - How does government measure the economy's rate of unemployment?
 - What problems arise in interpreting the unemployment data?
 - How long are the unemployed typically without work?

How is Unemployment Measured?

- Unemployment is measured in the US by the Bureau of Labor Statistics (BLS).
 - It surveys 60,000 randomly selected households every month.
 - The survey is called the Current Population Survey.

How is Unemployment Measured? (Cont'd)

- Based on the answers to the survey questions, the BLS places each adult into one of the three categories:
 - Employed
 - Unemployed
 - Not in the labor force
- **Labor force = employed + unemployed**
- Adult population = labor force + not in the labor force

How is Unemployment Measured? (Cont'd)

- The BLS considers a person an **adult** if he or she is over 16 years old.
- An adult is considered **employed** if he or she has spent most of the previous week working at a paid job.
- An adult is considered **unemployed** if he or she
 - is on temporary layoff
 - is looking for a job, or
 - is waiting for the start date of a new job

How is Unemployment Measured? (Cont'd)

- A person who is neither employed nor unemployed is **not in the labor force**.
Examples:
 - a full-time student
 - a homemaker
 - a retiree

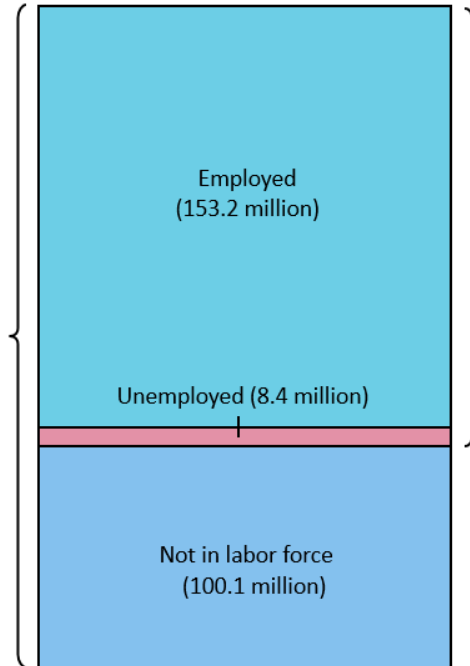


The Breakdown of the Population in Aug 2021

Unemployment Rate =
 $100 \times 8.4 \div 161.5 = 5.2\%$

Adult
Population
(261.6 million)

Labor Force Participation
Rate = $100 \times 161.5 \div$
 $261.6 = 61.7\%$



Labor Force
(161.5 million)

US data:

Population:

<http://research.stlouisfed.org/fred2/series/CNP16OV>

Labor Force:

<http://research.stlouisfed.org/fred2/series/CLF16OV>

Employed: <http://research.stlouisfed.org/fred2/series/CE16OV>

Unemployed:

<http://research.stlouisfed.org/fred2/series/unemploy>

Not in the Labor Force:

<http://research.stlouisfed.org/fred2/series/LNS15000000>

Unemployment Rate: <https://fred.stlouisfed.org/series/UNRATE>

Labor Force Participation Rate:

<https://fred.stlouisfed.org/series/CIVPART>

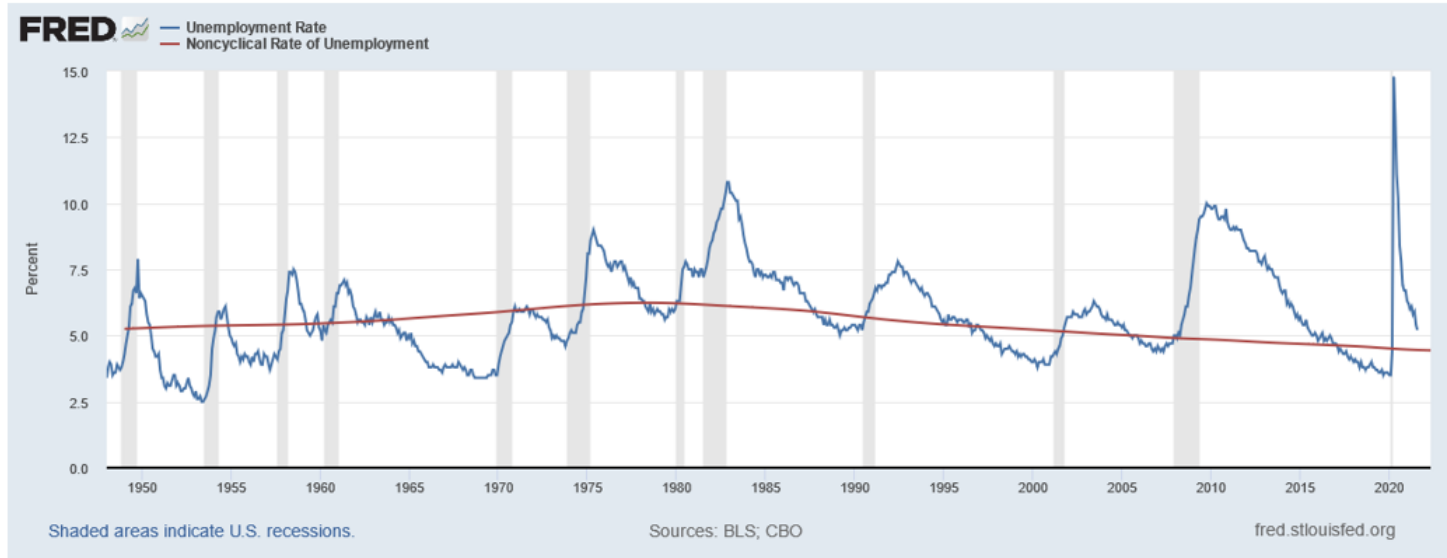


How is Unemployment Measured? (Cont'd)

- The unemployment rate is the percentage of the labor force that is unemployed.

$$\text{Unemployment rate} = \frac{\text{Number unemployed}}{\text{Labor force}} \times 100$$

Unemployment Rate since 1950



Sources:

Unemployment Rate: <https://fred.stlouisfed.org/series/UNRATE>

Natural Unemployment Rate: <https://fred.stlouisfed.org/series/NROU> .



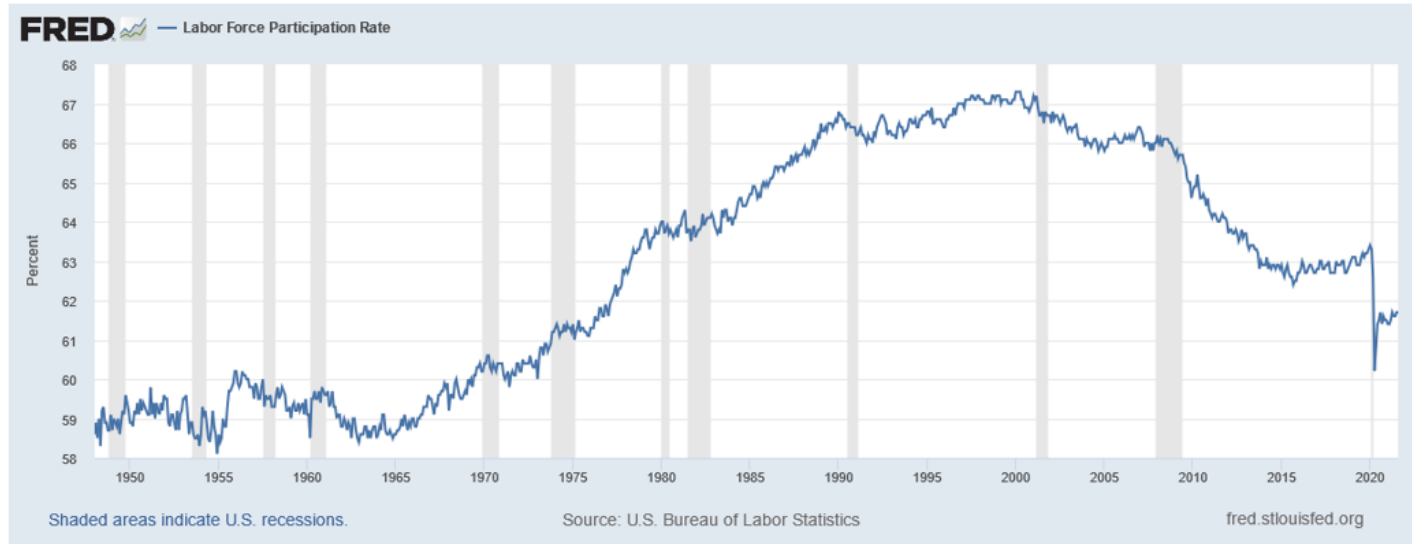
How is Unemployment Measured? (Cont'd)

- The **labor force participation rate** is the percentage of the adult population that is in the labor force.

Labor force participation rate

$$= \frac{\text{Labor force}}{\text{Adult population}} \times 100$$

Civilian Labor Force Participation Rate



Participation Rate = $100 \times \text{Labor Force} / \text{Population}$

CIVPART = $100 \times \text{CLF16OV} / \text{CNP16OV}$

Source: <http://research.stlouisfed.org/fred2/series/CIVPART>



Unemployment Rate and Participation Rate

	Population	Labor Force	Employed	Unemployed	Unemployment Rate (%)	Participation Rate (%)
Situation A	10	10	9	1	10	100
Situation B	10	9	9	0	0	90

In this made-up example, an unemployed person drops out of the labor force after repeated failures to find a job. (Such people are called [discouraged workers](#).) The unemployment rate “improves”. But the total market picture is unchanged.

Lesson: A fall in the unemployment rate represents a genuine improvement only if the participation rate has not fallen at the same time.



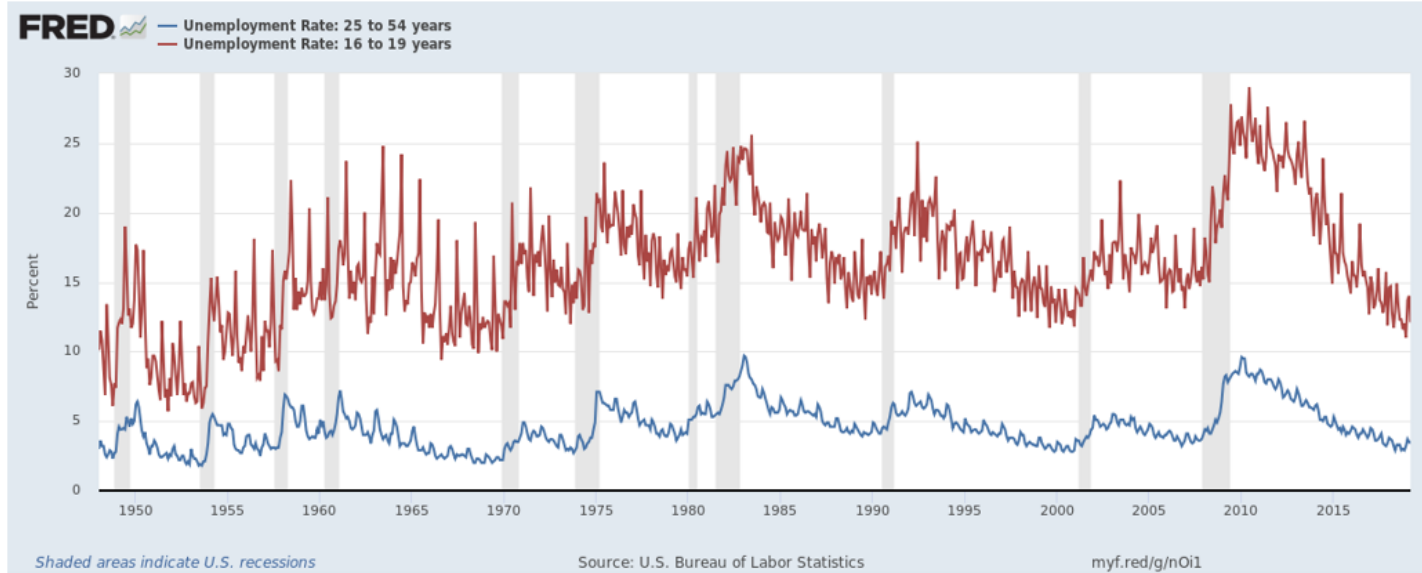
Labor Market Experiences of Various Demographic Groups

Demographic Group	Unemployment Rate	Labor-Force Participation Rate
Adults of Prime Working Age (ages 25–54)		
White, male	4.4%	89.4%
White, female	4.6	74.3
Black, male	10.1	80.7
Black, female	9.1	75.8
Teenagers (ages 16–19)		
White, male	19.2	35.6
White, female	15.5	36.8
Black, male	36.5	25.9
Black, female	29.7	28.4

This table shows the unemployment rate and the labor-force participation rate of various groups in the U.S. population for 2014.



Unemployment and Age



Source:

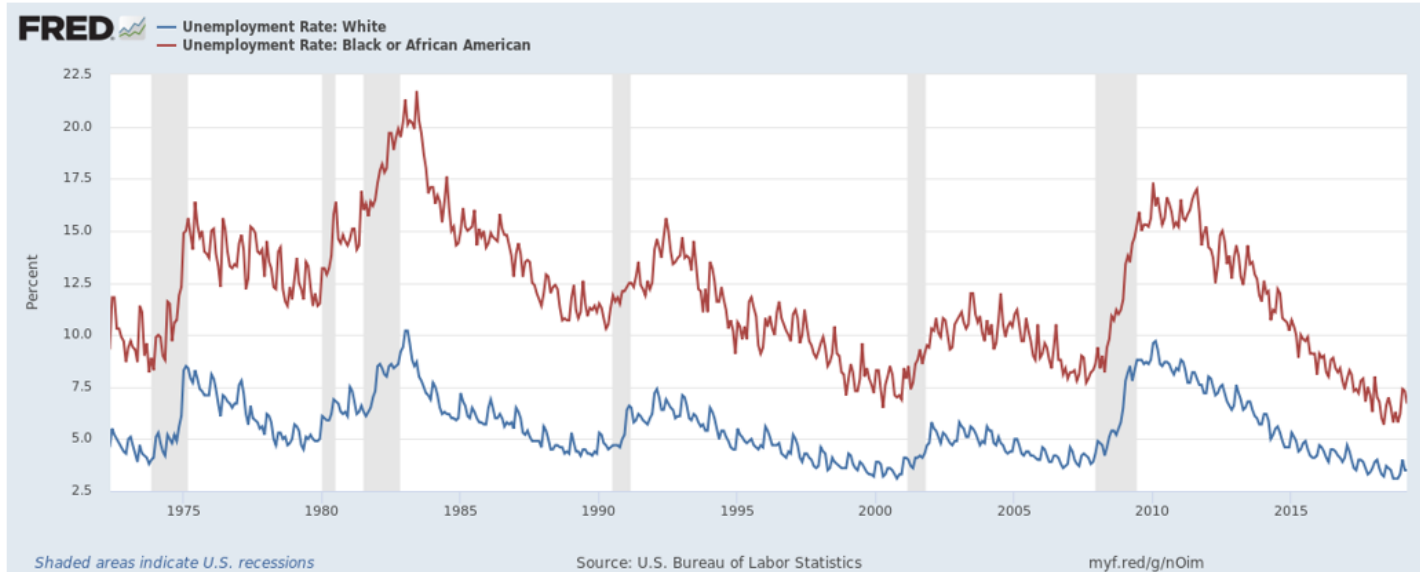
Unemployment Rate: 16 to 19 years <https://fred.stlouisfed.org/series/LNU0400012>.

Unemployment Rate: 25 to 54 years <https://fred.stlouisfed.org/series/LNU0400060>.

Neither series is seasonally adjusted.



Unemployment and Race



Source:

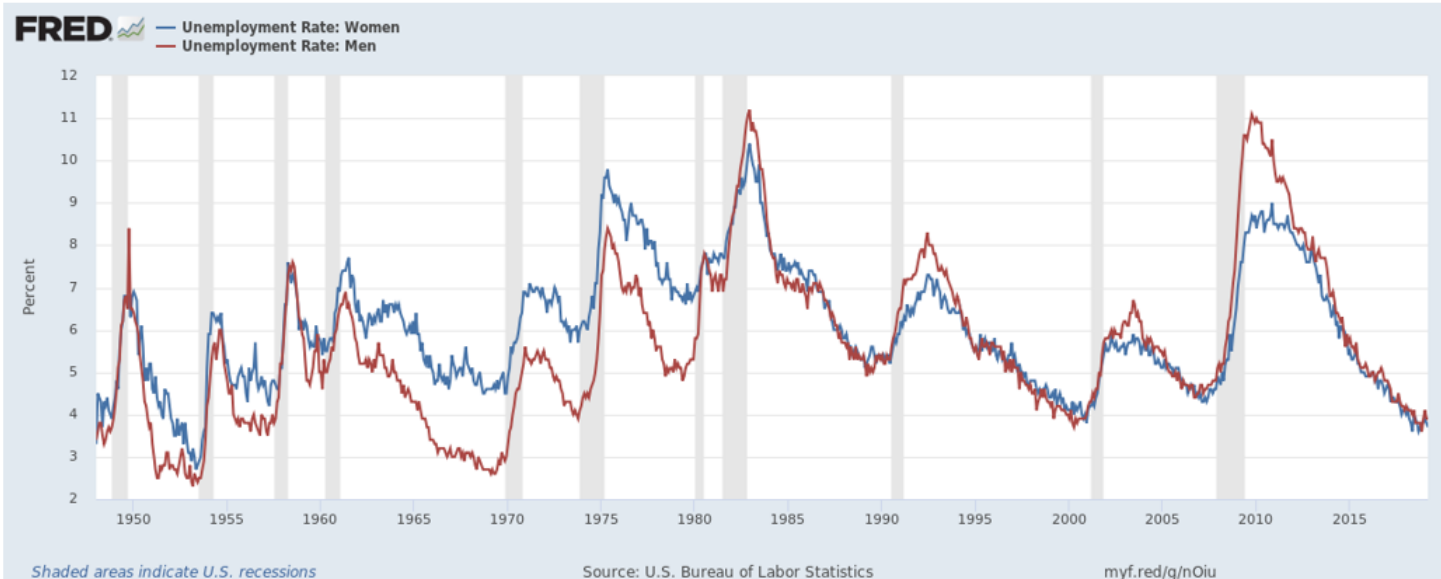
Unemployment Rate: Black or African American <https://fred.stlouisfed.org/series/LNU0400006>.

Unemployment Rate: White <https://fred.stlouisfed.org/series/LNU0400003>.

Neither series is seasonally adjusted.



Unemployment and Sex



Source:

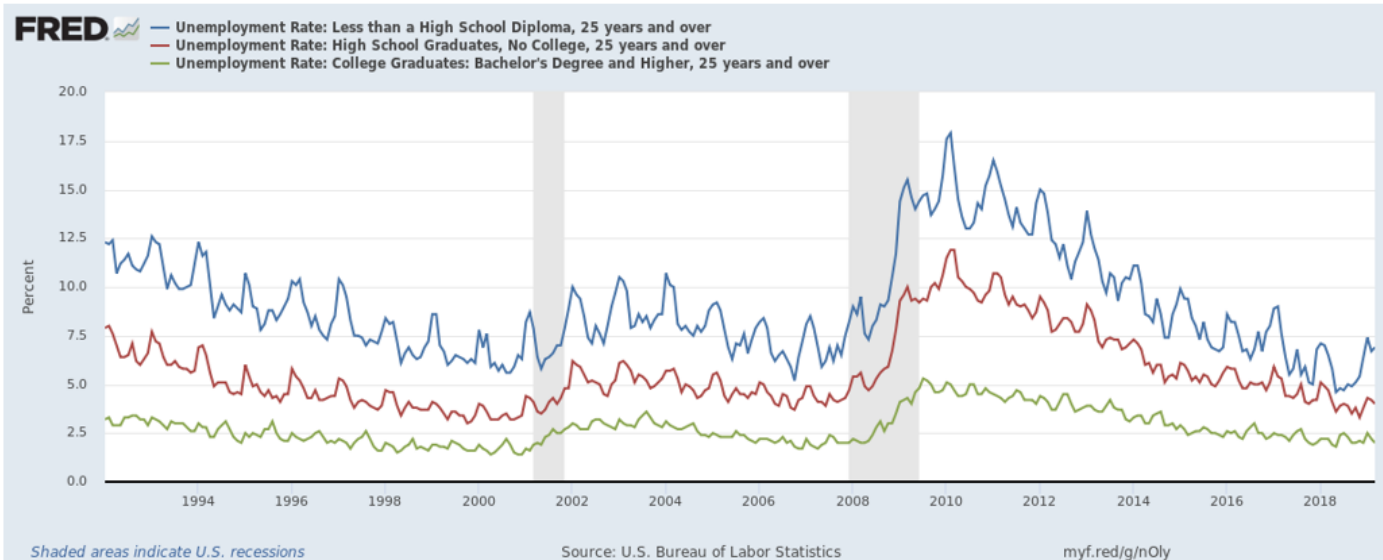
Unemployment Rate: Men <https://fred.stlouisfed.org/series/LNS14000001>.

Unemployment Rate: Women <https://fred.stlouisfed.org/series/LNS14000002>.

Seasonally adjusted.



Unemployment and Education



Source:

Unemployment Rate: College Graduates: Bachelor's Degree and Higher, 25 years and over <https://fred.stlouisfed.org/series/LNU04027662>.

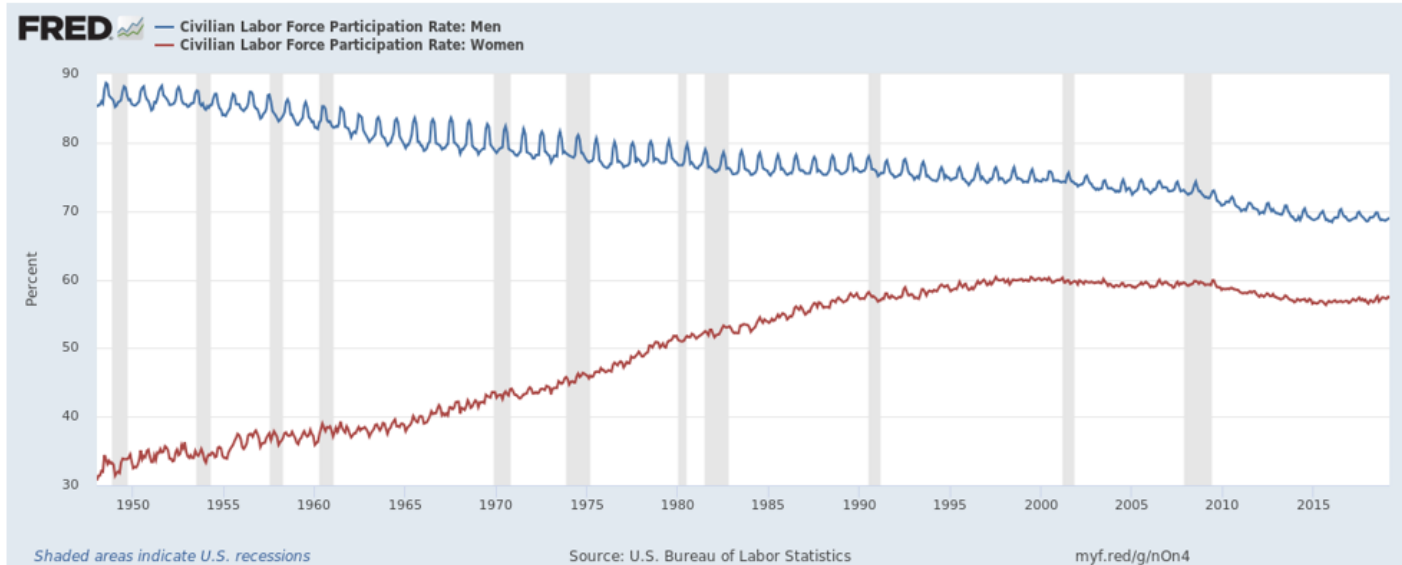
Unemployment Rate: High School Graduates, No College, 25 years and over <https://fred.stlouisfed.org/series/LNU04027660>.

Unemployment Rate: Less than a High School Diploma, 25 years and over <https://fred.stlouisfed.org/series/LNU04027659>.

Not seasonally adjusted.



Labor Force Participation Rate: Sex



Source:

Civilian Labor Force Participation Rate: Men <https://fred.stlouisfed.org/series/LNU01300001>.

Civilian Labor Force Participation Rate: Women <https://fred.stlouisfed.org/series/LNU01300002>



What explains the rise in the female participation rate?

- New technology in the home
 - Women have more time available for paid work
- Improved birth control
 - Fewer children to take care of
- Changing political and social attitudes
 - Greater employment opportunities for educated women



What explains the fall in the male participation rate?

- Longer schooling
- Earlier retirement and longer lives
- Higher female employment
 - More fathers stay home to raise children

Does the Unemployment Rate Measure What We Want It To?

- It is difficult to distinguish between a person who is unemployed and a person who is not in the labor force.
 - **Discouraged workers**, people who would like to work but have given up looking for jobs after an unsuccessful search, don't show up in unemployment statistics.
 - Other people may claim to be unemployed in order to receive financial assistance, even though they aren't looking for work.

Alternative Measures of Labor Underutilization

Measure and Description	Rate	The table shows various measures of joblessness for the U.S. economy. The data are for April 2010.
U-1 Persons unemployed fifteen weeks or longer, as a percent of the civilian labor force (includes only very long-term unemployed)	5.8%	
U-2 Job losers and persons who have completed temporary jobs, as a percent of the civilian labor force (excludes job leavers)	6.0	
U-3 Total unemployed, as a percent of the civilian labor force (official unemployment rate)	9.9	
U-4 Total unemployed, plus discouraged workers, as a percent of the civilian labor force plus discouraged workers	10.6	
U-5 Total unemployed plus all marginally attached workers, as a percent of the civilian labor force plus all marginally attached workers	11.3	
U-6 Total unemployed, plus all marginally attached workers, plus total employed part-time for economic reasons, as a percent of the civilian labor force plus all marginally attached workers	17.1	

Note: The Bureau of Labor Statistics defines terms as follows:

- *Marginally attached workers* are persons who currently are neither working nor looking for work but indicate that they want and are available for a job and have looked for work some-time in the recent past.
- *Discouraged workers* are marginally attached workers who have given a job-market-related reason for not currently looking for a job.
- *Persons employed part-time for economic reasons* are those who want and are available for full-time work but have had to settle for a part-time schedule.

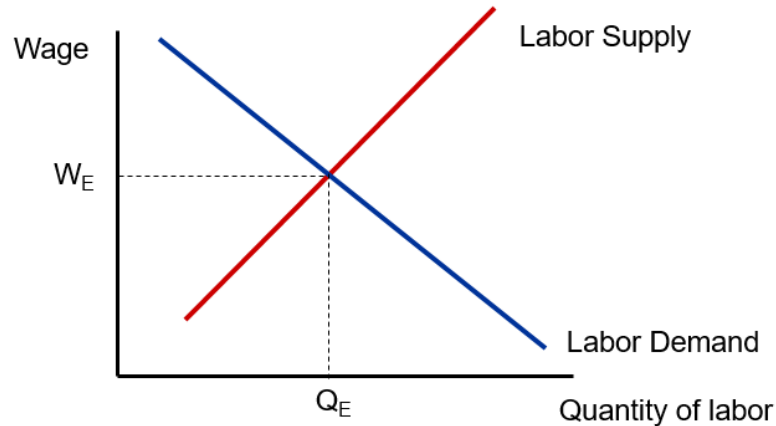


How Long Are the Unemployment without Work?

- Most spells of unemployment are short.
- Most unemployment observed at any given time is long-term.
- Most of the country's unemployment problem is attributable to relatively few worker who are jobless for long periods of time.

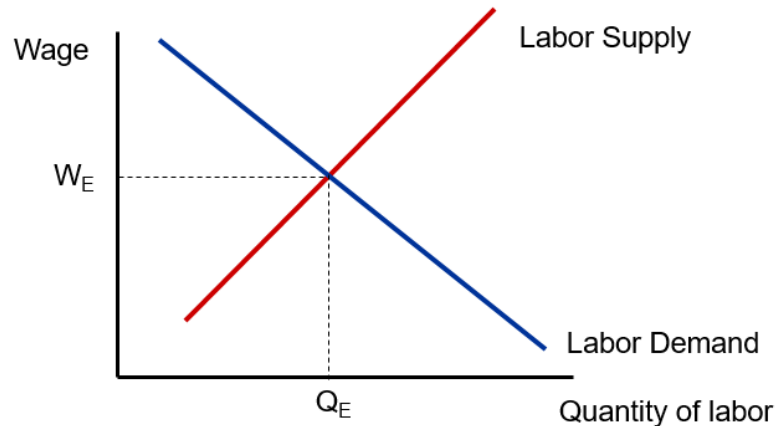
Why Are There Always Some People Unemployed?

- In an ideal labor market, wage would adjust to balance the supply and demand for labor, ensuring that all workers are fully employed.



Why Are There Always Some People Unemployed? (Cont'd)

- **Frictional unemployment** refers to the unemployment rate results from the time that it takes to match workers with job.
 - It takes time for workers to search for the jobs that best suit their tastes and skills.
 - **This unemployment occurs when labor supply equals labor demand.**

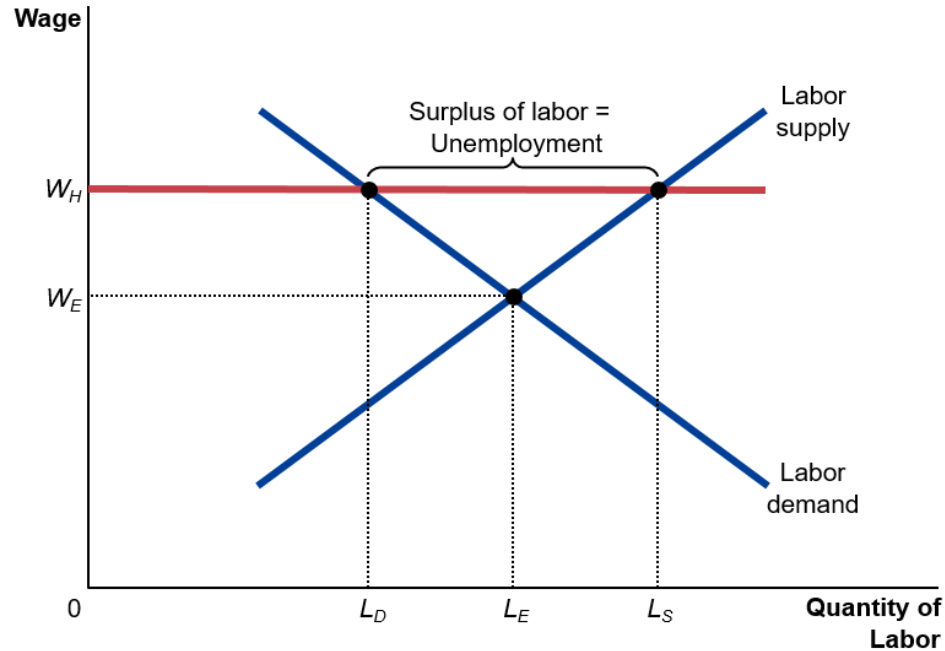


Why Are There Always Some People Unemployed? (Cont'd)

- **Structural unemployment** is the unemployment that results because the number of jobs available in some labor markets is insufficient to provide a job for everyone who wants one.
- **Structural unemployment occurs when the wage is stuck at a level higher than the equilibrium wage.**



Unemployment from a Wage Above the Equilibrium Level



Frictional Unemployment: Job Search

- Job search
 - is the process by which workers find appropriate jobs given their tastes and skills
 - it results from the fact that it takes time for qualified individuals to be matched with appropriate jobs

Job Search

- This unemployment is different from the other types of unemployment.
 - It is not caused by a wage rate higher than equilibrium.
 - It is caused by the time spent searching for the “right” job.

Why Some Frictional Unemployment is Inevitable?

- Search unemployment is inevitable because the economy is always changing.
- Changes in the composition of demand among industries or regions are called **sectoral shifts**.
- It takes time for workers to search for and find jobs in new sectors.

Public Policy and Job Search

- Government programs can affect the time it takes unemployed workers to find new jobs.
- These programs include the following:
 - Government-run employment agencies
 - Public training programs
 - Unemployment insurance



Public Policy and Job Search (Cont'd)

- Government-run employment agencies give out information about job vacancies in order to match workers and jobs more quickly.



Public Policy and Job Search (Cont'd)

- Public training program aim to ease the transition of workers from declining to growing industries and to help disadvantaged groups escape poverty.



Public Policy and Job Search (Cont'd)

- Unemployment insurance is a government program that partially protects workers' incomes when they become unemployed.
 - Offers workers partial protection against job losses.
 - Offers partial payment of former wages for a limited time to those who are laid off.

Public Policy and Job Search (Cont'd)

- Unemployment insurance increases the amount of search unemployment.
- It reduces the search efforts of the unemployed.
- It may improve the chances of workers being matched with the right jobs.



Structural Unemployment

- Structural unemployment exists when the wage is higher than the equilibrium wage.
- So, who keeps the wage that high? It could be ...
 - The government (minimum wage laws)
 - The workers (union activity)
 - The business themselves (efficiency wages)

Minimum Wage Laws

- When the minimum wage is set above the level that balances supply and demand, it creates unemployment.
 - This does not mean that minimum wage laws are necessarily bad, only that they cause unemployment.

Unions and Collective Bargaining

- A **union** is a worker association that bargains with employers over wages and working conditions.
- In the 1940s and 1950s, when unions were at their peak, about a third of the U.S. labor force was unionized.
- A union is a type of cartel attempting to exert its market power.

Unions and Collective Bargaining (Cont'd)

- The process by which unions and firms agree on the terms of employment is called **collective bargaining**.

Unions and Collective Bargaining (Cont'd)

- A strike will be organized if the union and the firm cannot reach an agreement.
- A strike refers to when the union organizes a withdrawal of labor from the firm.



Unions and Collective Bargaining (Cont'd)

- A successful strike makes some workers better off and other workers worse off.
- Workers in unions (insiders) reap the benefits of collective bargaining, while workers not in the union (outsiders) bear some of the costs.

Unions and Collective Bargaining (Cont'd)

- By acting as a cartel with ability to strike or otherwise impose high costs on employers, unions usually achieve above-equilibrium wages for their members.
- Union workers earn 10 to 20 percent more than non-union workers.
- Their fringe benefits are typically worth two to four times as much.
- The financial advantage is even greater for workers with little formal education and training and for women, blacks, and Hispanic workers.
- More than 85 percent of union members have health insurance, compared with 57 percent of non-union workers.



Are Unions Good or Bad for the Economy?

- Critics argue that union causes the allocation of labor to be inefficient and inequitable.
 - Wages above the competitive level reduce the quantity of labor demanded and cause unemployment.
 - Some workers benefit at the expense of other workers.

Are Unions Good or Bad for the Economy? (Cont'd)

- Advocates of unions contend that unions are a necessary antidote to the market power of firms that hire worker.
- They claim that unions are important for helping firms respond efficiently to workers' concerns.

Theory of Efficiency Wages

- **Efficiency wages** are above-equilibrium wages paid by firms in order to increase worker productivity.
- The theory of efficiency wages states that firms operate more efficiently if wages are above the equilibrium level.

Theory of Efficiency Wages (Cont'd)

- A firm may prefer higher-than-equilibrium wages for the following reasons:
 - Worker Health: Better paid workers eat a better diet and thus are more productive.
 - Worker Turnover: A higher paid worker is less likely to look for another job.
 - Worker Effort: Higher wages motivate workers to put forward their best effort.
 - Worker Quality: Higher wages attract a better pool of workers to apply for jobs.

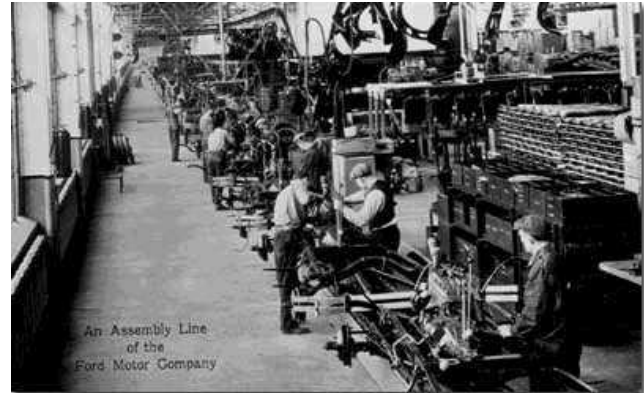
Henry Ford's Experiment

- Henry Ford introduced the assembly line technique in auto production, thereby ushering in a productivity revolution.
- In 1914, Ford began paying his workers \$5 per day, which was far above the norm.
 - It is \$105 per day in 2007 money



Henry Ford's Experiment (Cont'd)

- Turnover and absenteeism fell.
- Productivity rose so much that Ford's costs fell.
- Henry Ford himself called the \$5-a-day wage “one of the finest cost-cutting moves we ever made”.





2021 SCUIP Winter Session I