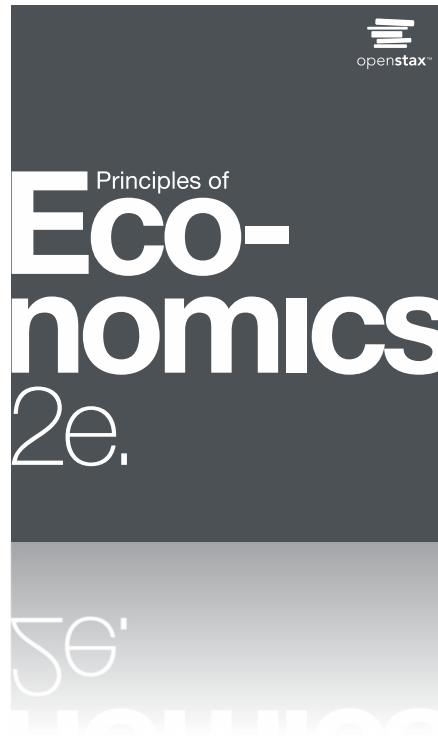


PRINCIPLES OF ECONOMICS 2e

Chapter 21 Unemployment



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CH.21 OUTLINE

21.1: Unemployment Rate: Defined and Computed

21.2: Patterns of Unemployment

21.3: Causes of SR Changes in Unemployment

21.4: Causes of LR Changes in Unemployment

Out of Business



Credit: modification of work by Luis Villa del Campo/Flickr Creative Commons

- Borders was one of the many companies unable to recover from the 2008-2009 economic recession.

21.1 Unemployment Rate: Defined and Computed

- The adult population consists of:
 - **Employed:** currently working for pay.
 - **Unemployed:** out of work and actively looking for a job.
 - **Out of the labor force:** not working *and* not looking for work.
 - whether or not they want employment!
 - also termed “not in the labor force”
- **Labor force:** the number of employed plus the unemployed.

Labor Force Participation Rate



- **Labor force participation rate:** the percentage of adults in an economy who are either employed or who are unemployed and looking for a job.

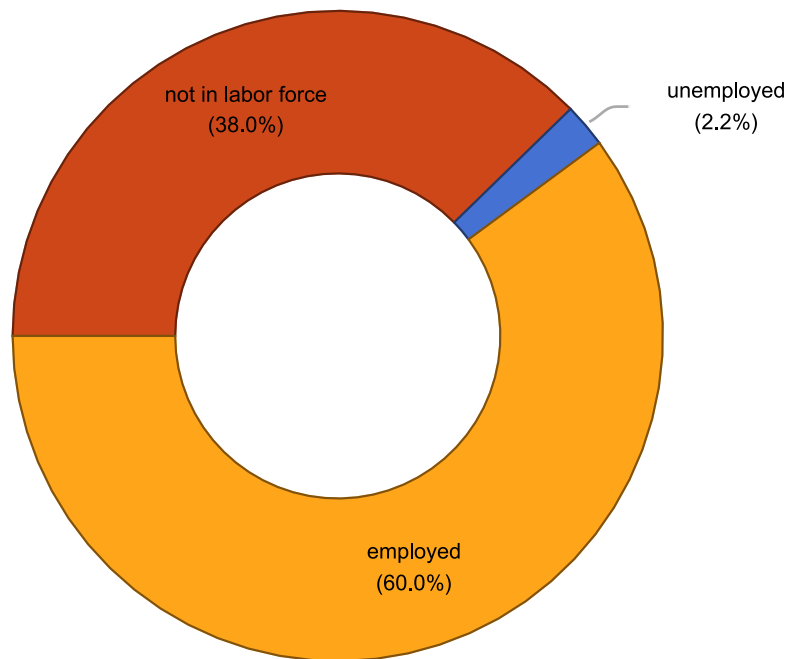
$$\text{Labor force participation rate} = \frac{\text{Total labor force}}{\text{Total adult population}} \times 100$$

- **Unemployment rate:** the percentage of adults who are seeking jobs and thus **in the labor force but who do not have jobs.**

$$\text{Unemployment rate} = \frac{\text{Unemployed people}}{\text{Total labor force}} \times 100$$

US Civilian Noninstitutional Population: Employed, Unemployed, and Out of the Labor Force

US Civilian Noninstitutional Population
(264,356k in September 2022)



- The total adult, working-age population in September 2022 was 264.4 million.
- The labor force participation rate was just over
 $60\% + 2.2\% = 62\%$
- The unemployment rate was about
 $100\% * 2.2 / 62.2 = 3.5\%$

Data Source: <https://www.bls.gov/news.release/empsit.t01.htm>
(Numbers may not sum to 100% due to rounding.)

Hidden Unemployment

- “Hidden unemployment” - people who are mislabeled in the categorization of employed, unemployed, or out of the labor force.
 - Part-time or temporary workers looking for full-time or permanent work.
 - **Underemployed:** individuals who are employed in a job that is below their skills.
 - **Discouraged workers:** those who have stopped looking for employment due to the lack of suitable positions available.

BLS computes alternatives to the official unemployment rate:

<https://www.bls.gov/news.release/empsit.t15.htm>

International Unemployment Comparisons



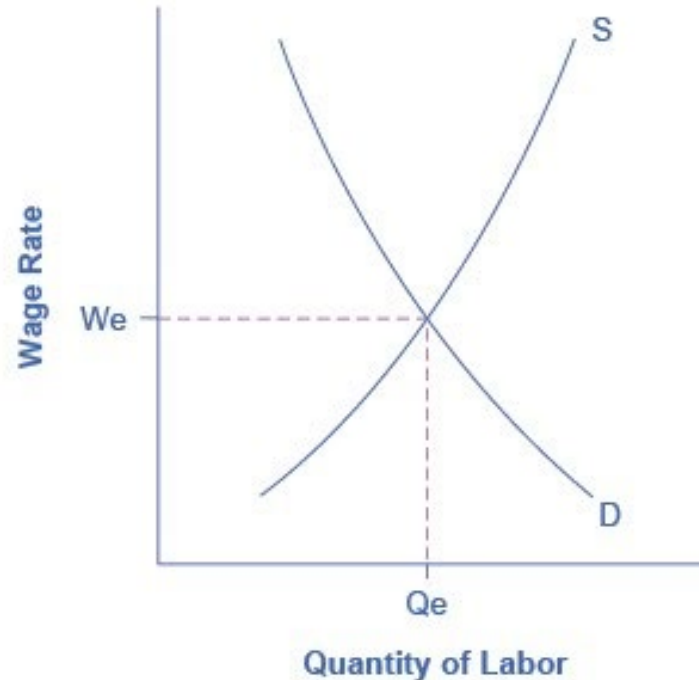
- From an international perspective, the U.S. unemployment rate often been below that of comparable countries.
- Caution when comparing cross-country unemployment rates due to:
 - Different definitions of unemployment
 - Survey tools for measuring unemployment
 - Poorer countries lack resources and technical capabilities in their statistical agencies.
 - Different labor markets
 - In low-income countries, workers are not involved in the labor market through an employer who pays them regularly, but in short-term work, subsistence activities, and barter.

21.3 SR Changes in Unemployment



- From the standpoint of the supply-and-demand model of competitive and flexible labor markets, unemployment represents something of a puzzle.

Equilibrium in the Labor Market

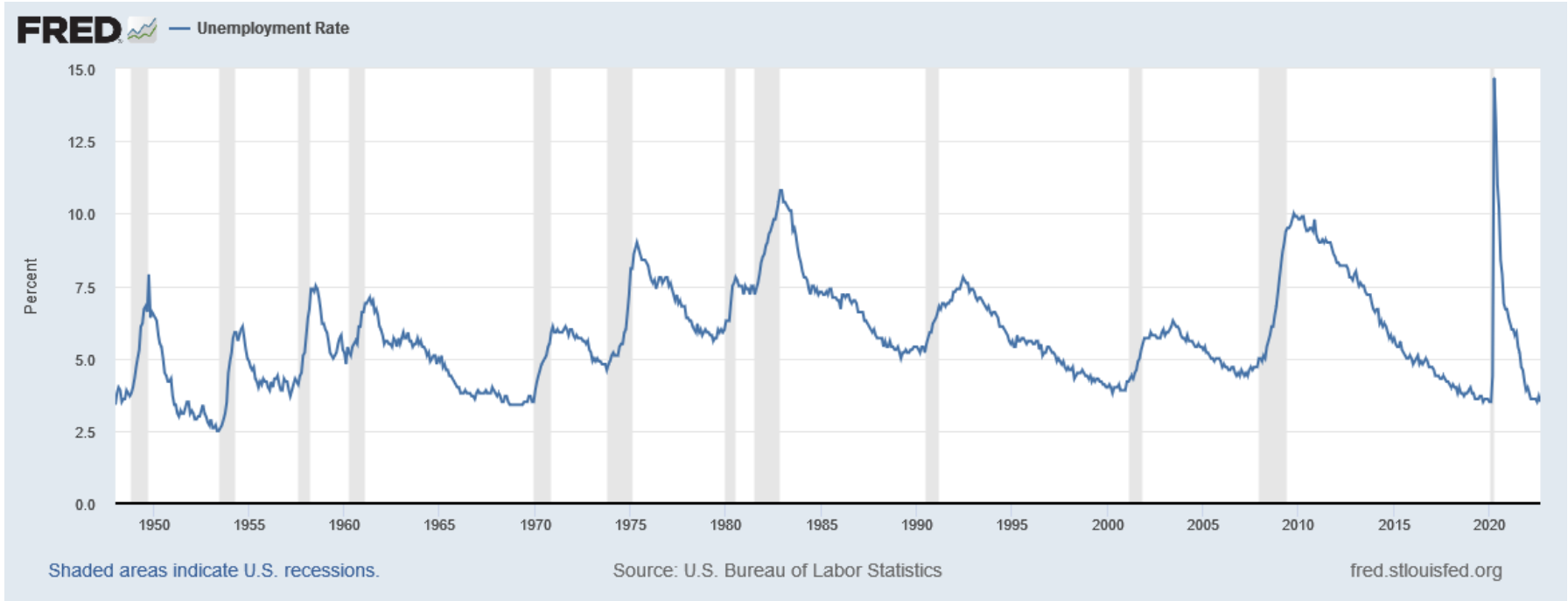


- With flexible wages, the equilibrium will occur at wage W_e and quantity Q_e ,
 - Here the number of people who are willing and able to accept jobs (as shown by S) equals the number of jobs firms make available (as shown by D).

Cyclical Unemployment

- **Cyclical unemployment:**
 - unemployment closely tied to the business cycle, like higher unemployment during a recession.

21.2 Dynamic Patterns of US Unemployment

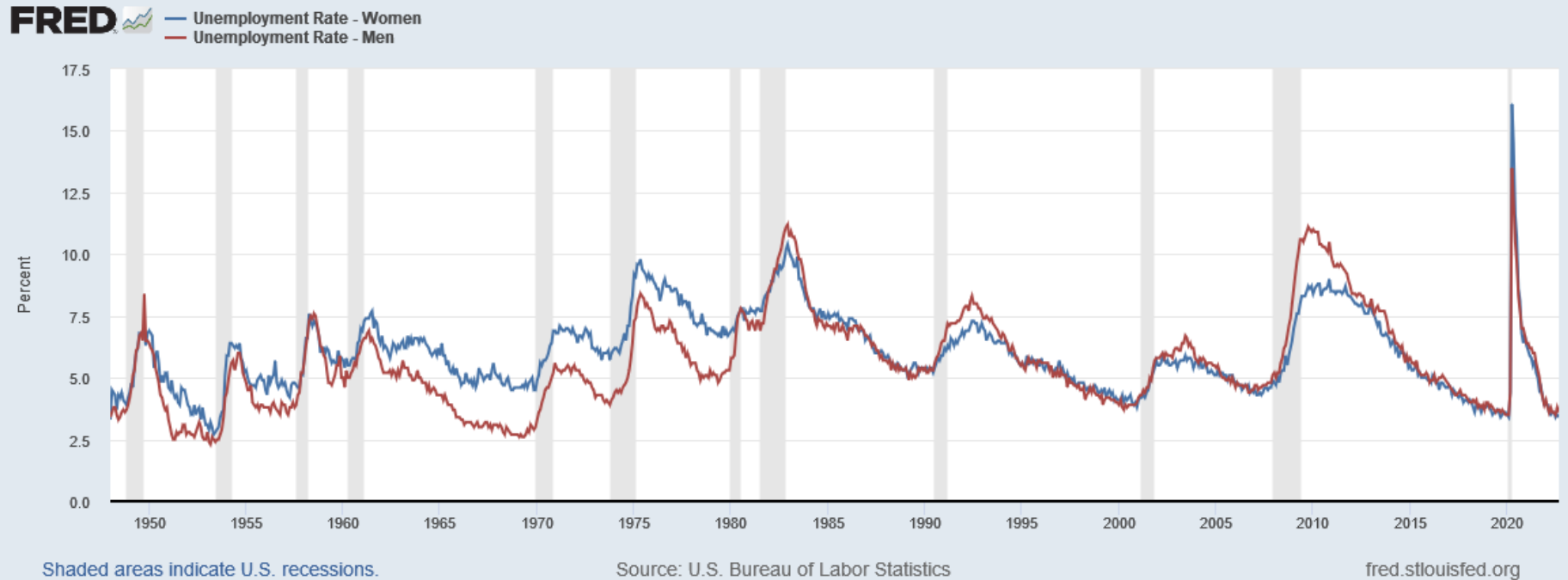


Source: Federal Reserve Economic Data (FRED) <https://research.stlouisfed.org/fred2/series/UNRATE>

U.S. unemployment rate:

- moves up and down as the economy moves in and out of recessions.
- over time, the unemployment rate seems to return to a range of 4% to 6%.
- no apparent long-term trend (either generally higher or generally lower).

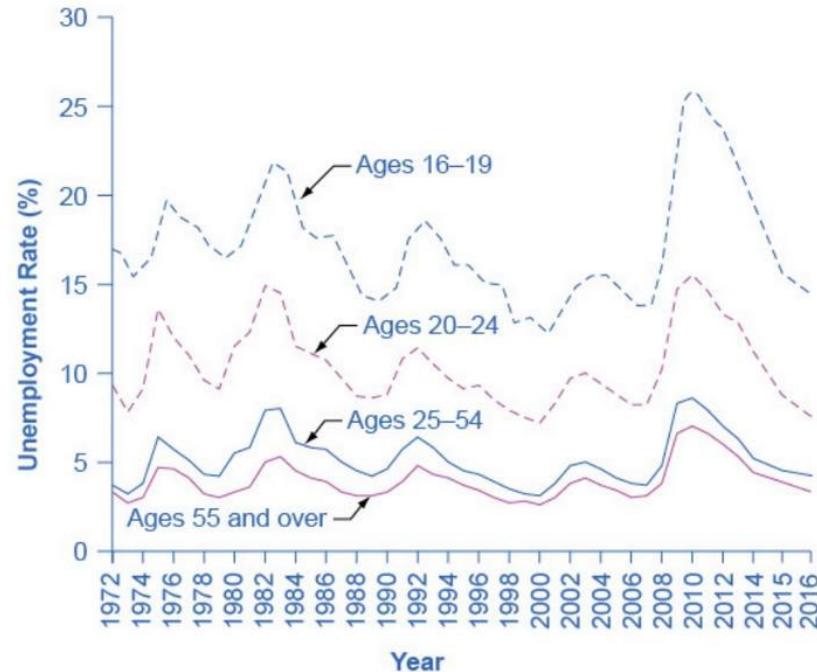
Unemployment Rates: Men vs Women



Source: FRED <https://fred.stlouisfed.org/graph/fredgraph.png?g=VotI>

- Unemployment rates for men used to be lower than unemployment rates for women.
- In recent decades, the two rates have been very close, often with the unemployment rate for men somewhat higher.

Unemployment Rates by Group - Age

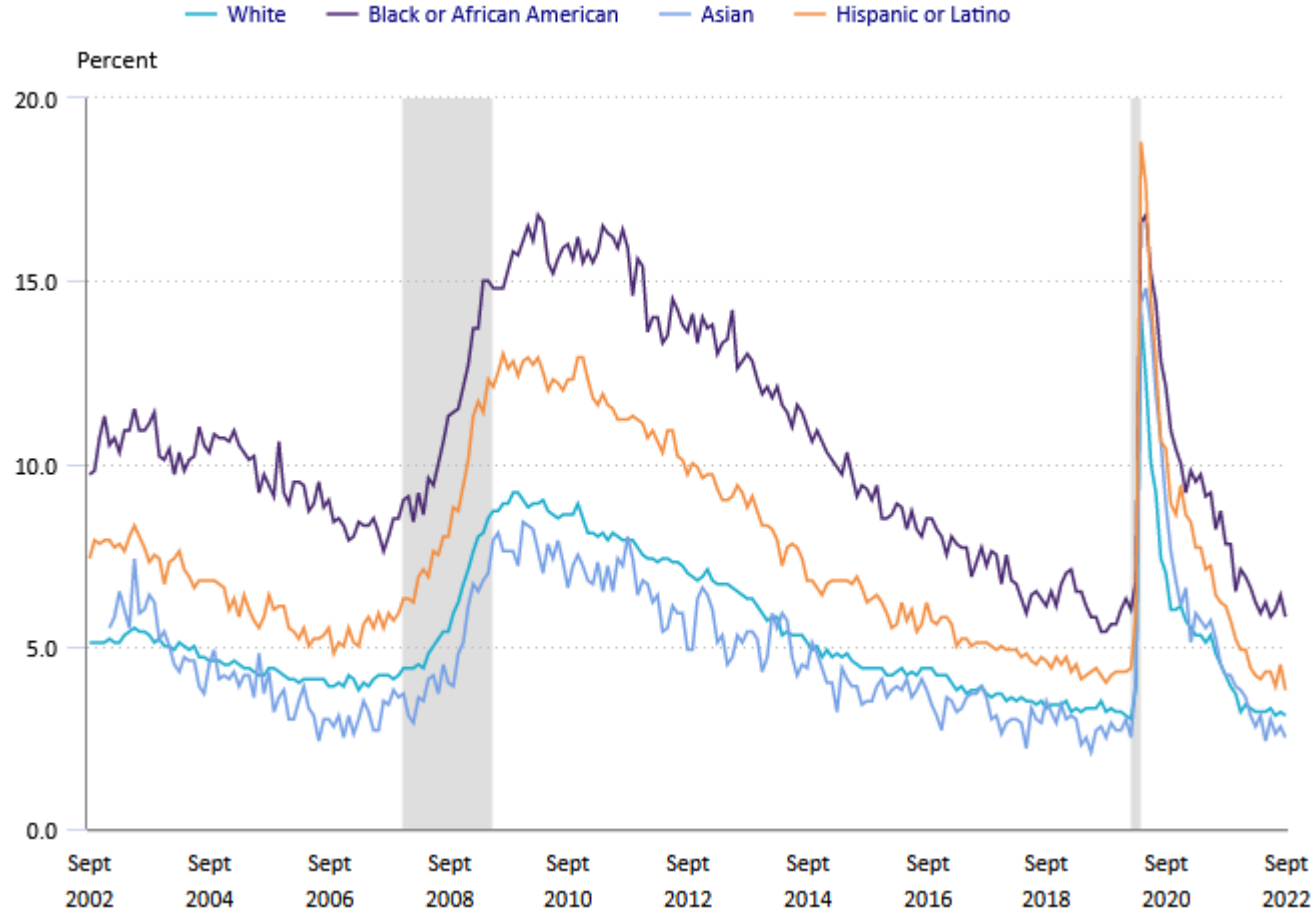


(b) Unemployment rates for women, by age

Source: www.bls.gov

- Unemployment rates are highest for the very young and become lower with age.

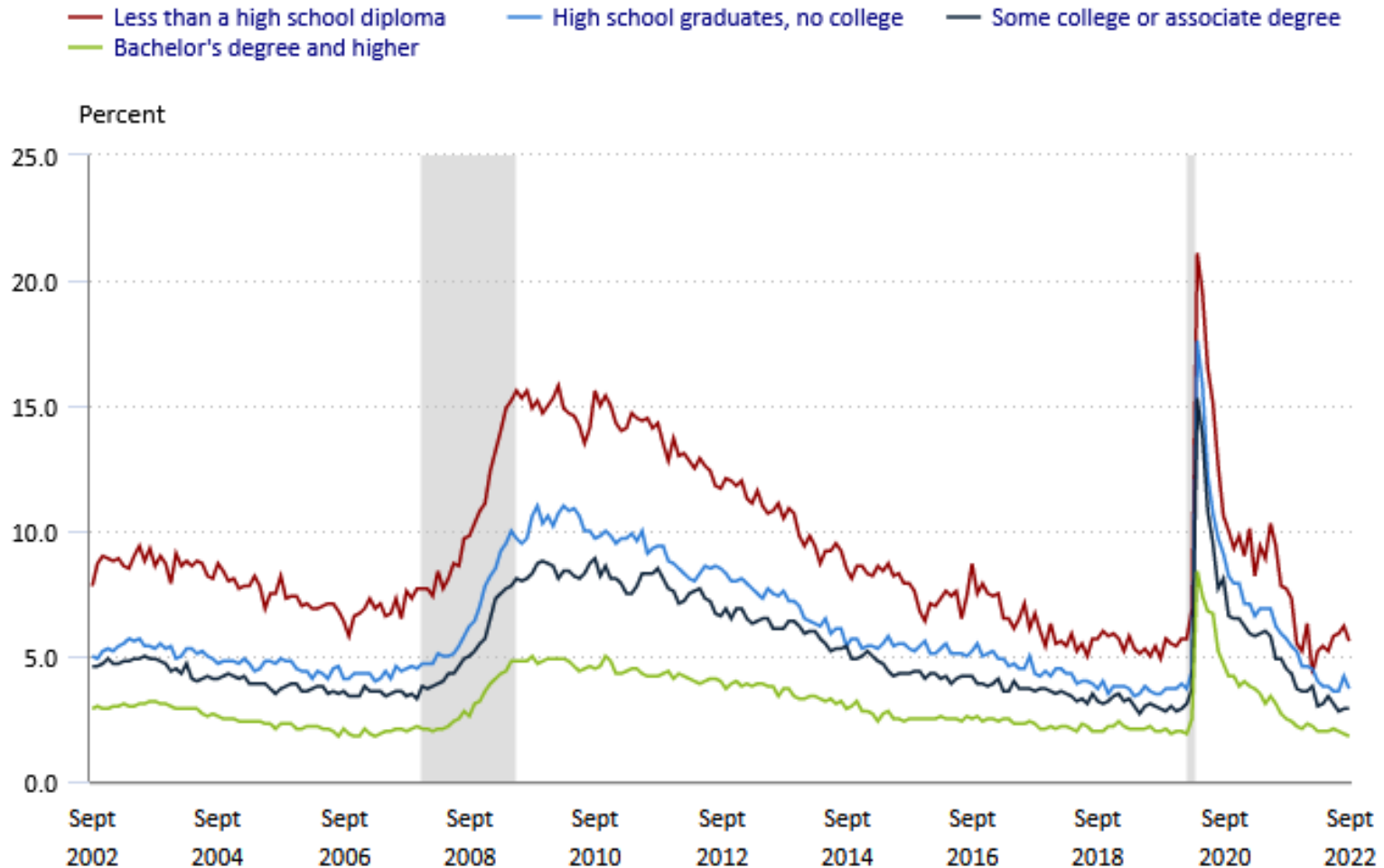
US Unemployment by Race and Ethnicity



Source: <https://www.bls.gov/charts/employment-situation/civilian-unemployment-rate.htm>

- Unemployment rates for all groups tend to rise and fall together.
- The Black and Hispanic unemployment rates have been higher than the White and Asian unemployment rates in recent years.

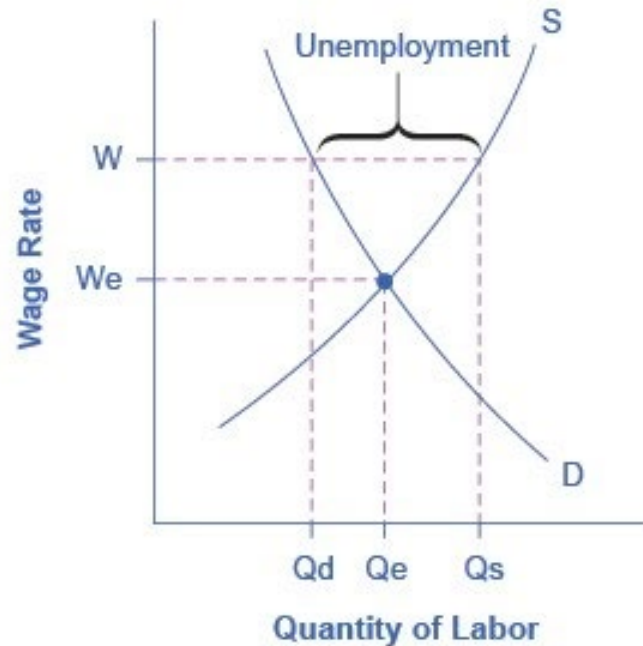
US Unemployment by Educational Attainment



Source: <https://www.bls.gov/charts/employment-situation/unemployment-rates-for-persons-25-years-and-older-by-educational-attainment.htm>

Higher educational attainment produces lower unemployment rates.

Sticky Wages Can Cause Unemployment



- The wage rate is stuck at W , above the equilibrium,
 - the number of those who want jobs (Q_s) is greater than the number of job openings (Q_d).
 - The result is unemployment, as shown in the figure.

Why Wages Might Be Sticky Downward



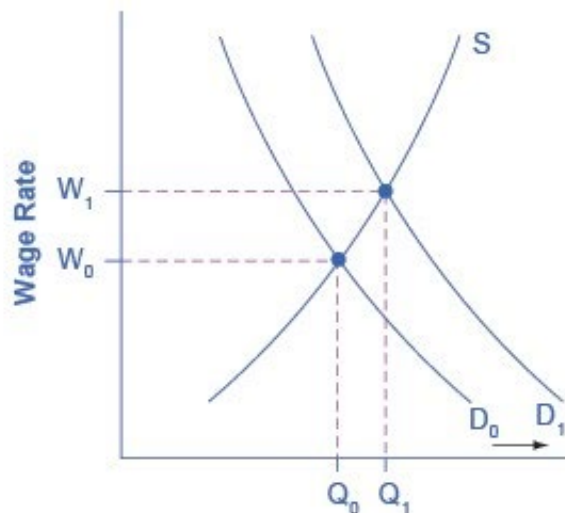
- **Implicit contract:**
 - an unwritten agreement in the labor market that the employer will try to keep wages from falling when the economy is weak or the business is having trouble, and the employee will not expect huge salary increases when the economy or the business is strong.
- **Efficiency wage theory:**
 - the theory that the productivity of workers, either individually or as a group, will increase if the employer pays them more.
- **Adverse selection of wage cuts argument:**
 - if employers reduce wages for all workers, the best will leave.

Why Wages Might Be Sticky Downward, Continued



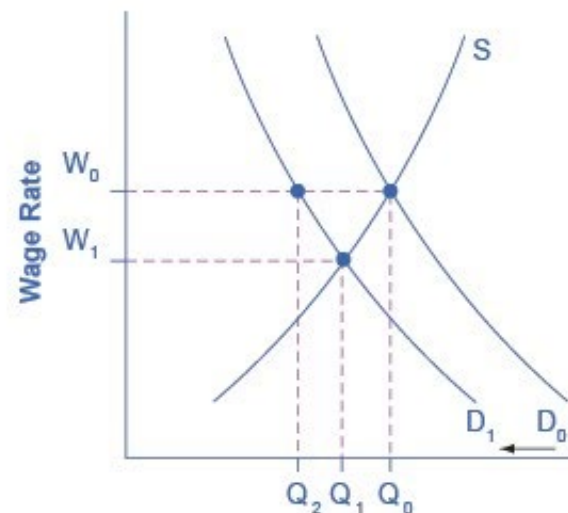
- **Insider-outsider model:**
 - those already working for the firm are “insiders” who know the procedures; the other workers are “outsiders” who are recent or prospective hires.
- **Relative wage coordination argument:**
 - across-the-board wage cuts are hard for an economy to implement, and workers fight against them.

Rising Wage and Low Unemployment: Where Is the Unemployment in Supply and Demand?



Quantity of Labor

(a) Rising demand for labor, wages rise

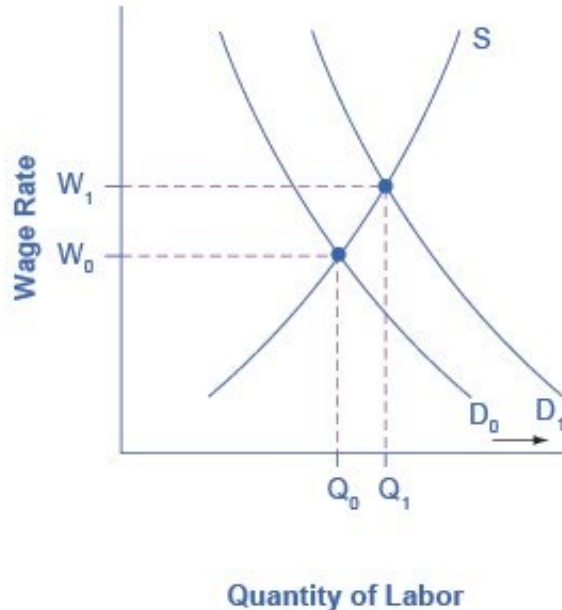


Quantity of Labor

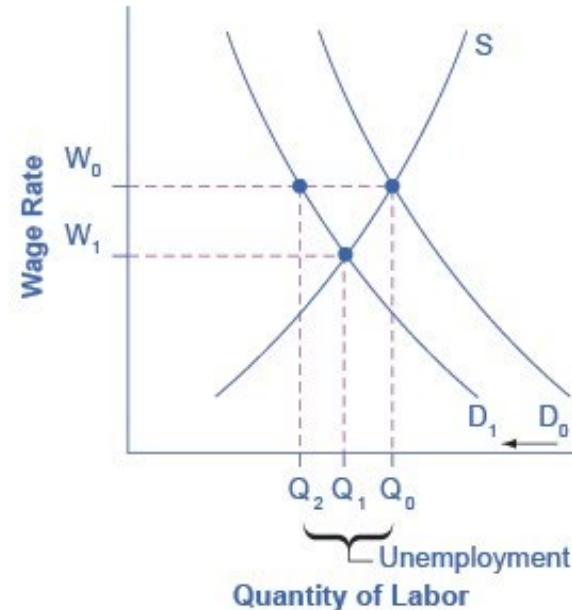
(b) Falling demand for labor, sticky wages,
and unemployment

- (a) In a labor market where wages are able to rise, an increase in the demand for labor from D_0 to D_1 leads to an increase in equilibrium quantity of labor hired from Q_0 to Q_1 and a rise in the equilibrium wage from W_0 to W_1 .

Rising Wage and Low Unemployment: Where Is the Unemployment in Supply and Demand?



(a) Rising demand for labor, wages rise



(b) Falling demand for labor, sticky wages,
and unemployment

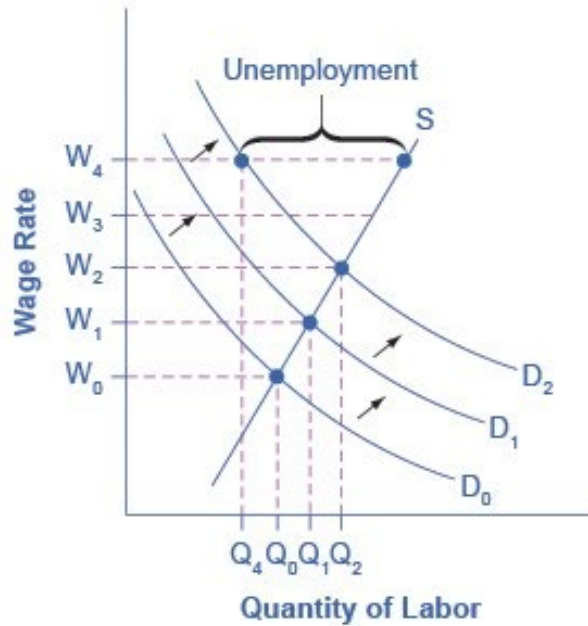
(b) In a labor market where wages do not decline, a fall in the demand for labor from D_0 to D_1 leads to a decline in the quantity of labor demanded at the original wage (W_0) from Q_0 to Q_2 . These workers will want to work at the prevailing wage (W_0) but will not be able to find jobs.

21.4 LR Changes in Unemployment Rates

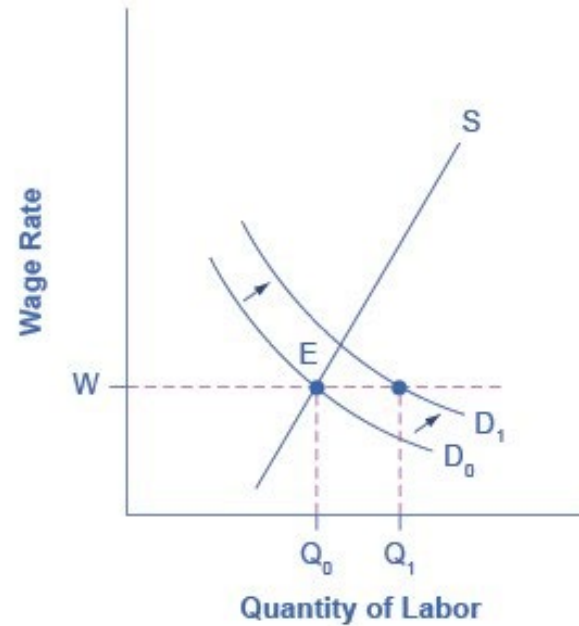


- **Natural rate of unemployment** - the unemployment rate that would exist in a growing and healthy economy from the combination of economic, social, and political factors that exist at a given time.
 - **Frictional unemployment** - unemployment that occurs as workers move between jobs.
 - **Structural Unemployment** - unemployment that occurs because individuals lack skills valued by employers.
- Economists consider the economy to be at “full employment” when the actual unemployment rate is equal to the natural unemployment rate.

Productivity Shifts and the Natural Rate of Unemployment



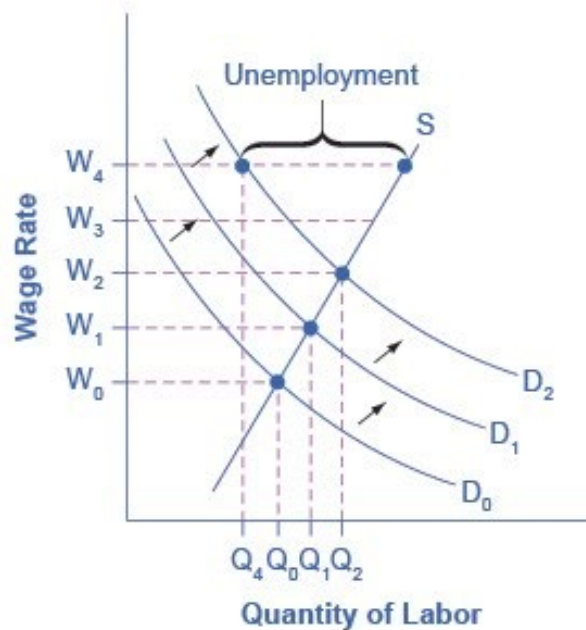
(a) Productivity rises, and then stops rising



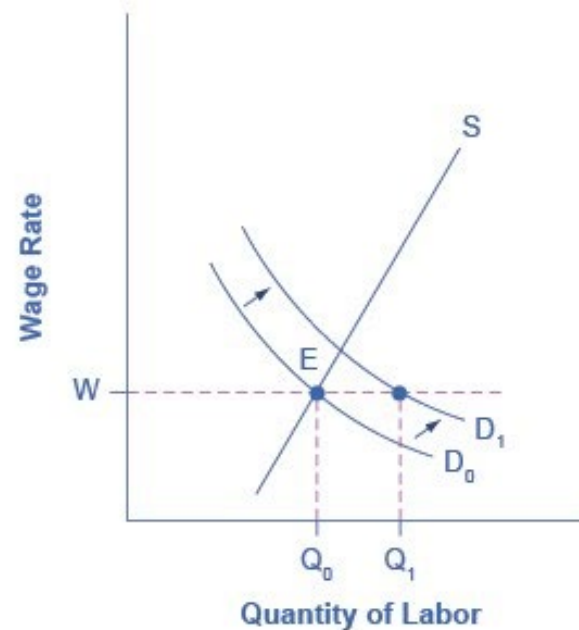
(b) Productivity doesn't change, and then rises

- (a)** Productivity rises over time, increasing the demand for labor.
- Employers and workers become used to the pattern of wage increases.
 - Then productivity suddenly stops increasing.
 - The expectations of employers and workers for wage increases do not shift immediately, so wages keep rising as before.
 - However, the demand for labor has not increased, so at wage W_4 , unemployment exists where the quantity supplied of labor exceeds the quantity demanded.

Productivity Shifts and the Natural Rate of Unemployment



(a) Productivity rises, and then stops rising



(b) Productivity doesn't change, and then rises

- (b)** The rate of productivity increase has been zero for a time
- employers and workers come to accept the equilibrium wage level (W).
 - an unexpected productivity increase shifting labor demand from D_0 to D_1 .
 - At the wage (W), this means that the quantity demanded of labor exceeds the quantity supplied, and with job offers plentiful, the unemployment rate will be low.

Public Policy and the Natural Rate of Unemployment



- On the supply side of the labor market, public policies to assist the unemployed can affect how eager people are to find work.
 - Example: unemployment insurance, welfare benefits, food stamps, and government medical benefits may make the opportunity cost of unemployment lower -> a worker may be less eager to seek a new job.
- What seems to matter most is how long the assistance lasts.
 - Short term benefits (weeks/months) vs. long term benefits (years)
- Government assistance for job search or retraining can sometimes encourage people back to work sooner.

Public Policy and the Natural Rate of Unemployment, Continued



- On the demand side of the labor market some public policies can affect the willingness of firms to hire:
 - Government rules
 - Social institutions
 - Presence of unions

The Natural Rate of Unemployment in Recent Years



- Underlying economic, social, and political factors that determine the natural rate of unemployment can change over time, which means that the natural rate of unemployment can change over time too.
- Estimates by economists of the natural rate of unemployment in the U.S. economy is about 4.5 to 5.5%, which is a lower estimate than previously.
- Reasons for this lower rate:
 - Internet as a job seeking tool
 - Growth of the temporary worker industry
 - Aging of the “baby boom generation”

END