LSE EC1B5 Macroeconomics

Handout 8

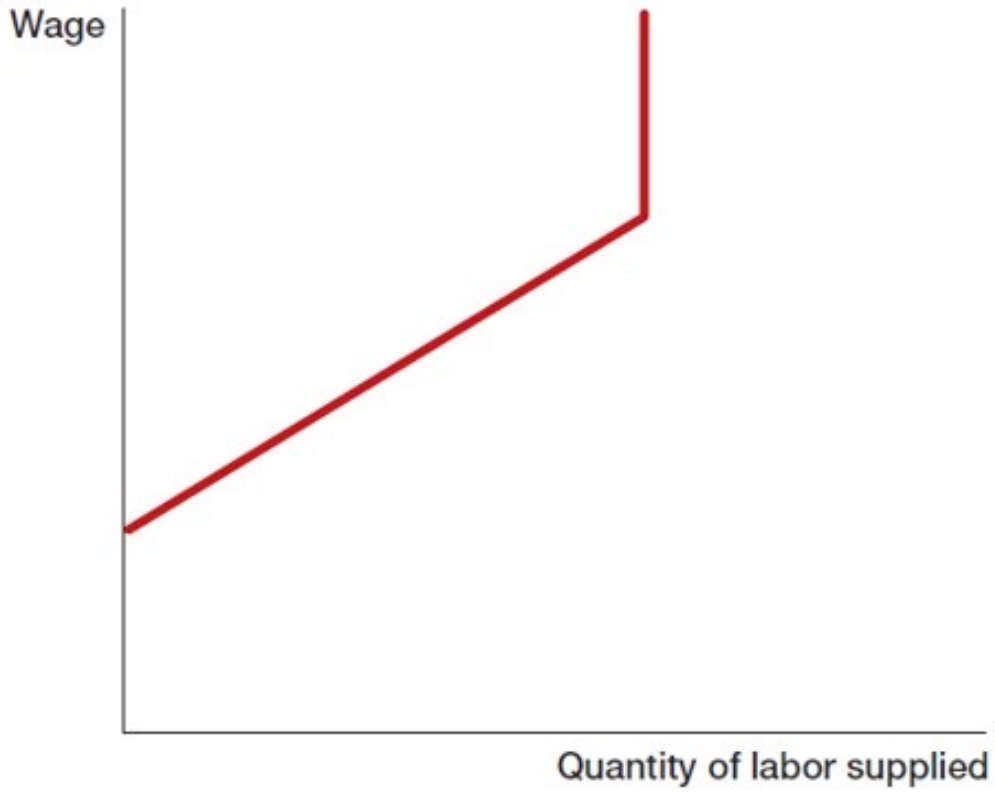
Unemployment

Key Ideas

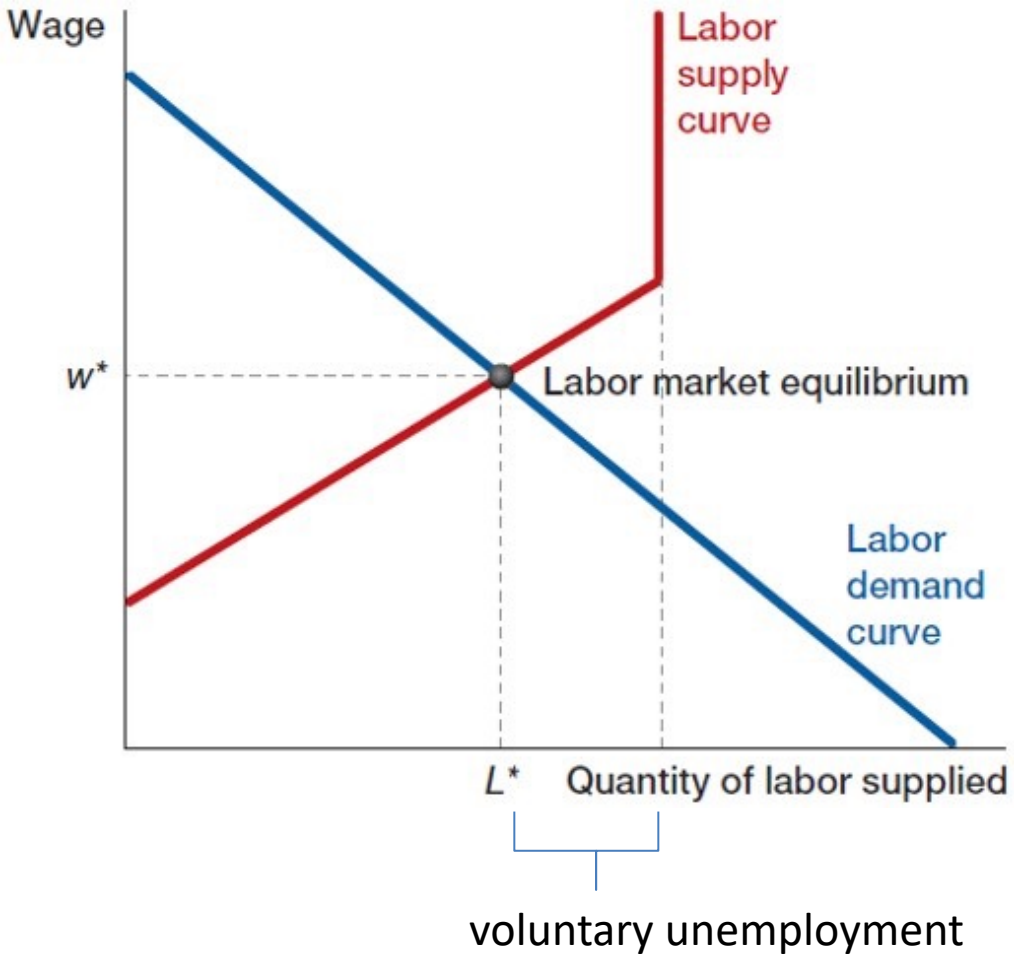
1. Search theory of unemployment – takes time for an unemployed worker to find an "acceptable job".
2. Wage rigidities due to minimum wage laws, union, efficiency wage and downward wage rigidity.
3. Cyclical unemployment is the difference between the unemployment rate and its long-term average

Review of Labor Supply

Upward-Sloping Labor Supply Curve



Competitive Equilibrium in the Labor Market



Equilibrium in the Labor Market

Equilibrium in a competitive labor market occurs at the intersection of the labor demand and labor supply curves.

At the equilibrium wage (w^*), the quantity of labor demanded is equal to the quantity of labor supplied.

Equilibrium in the Labor Market

In a competitive labor market (frictionless market), wages will always adjust quickly to clear the market. Shortages and surpluses don't persist for a long period of time.

As a result, anyone who wants to work is working, i.e., there is no unemployment in the frictionless labor market.

Equilibrium in the Labor Market

The frictionless market fails to explain why there are several million people who are considered unemployed today. As seen earlier, there were 7.7 million unemployed persons in the United State in 2016.

We need to look beyond the frictionless market to explain unemployment.

Why Is There Unemployment? (1 of 2)

Answer 1: Job seekers looking for the right job (*frictional unemployment*).

Why Is There Unemployment? (2 of 2)

Answer 2:

Unemployed workers would be willing to work at the prevailing wage rate but are unable to find employers who will hire them (*structural unemployment*).

Job Search and Frictional Unemployment (1 of 3)

Firms do not have complete information on the skills, experiences, and preferences of job seekers.

Job Search and Frictional Unemployment (2 of 3)

Job seekers do not have complete information on the specifics of each job opening.

Job Search and Frictional Unemployment (3 of 3)

As a result, workers must undertake a time-consuming **job search** (i.e., sending resumes, interviewing, networking) to find the right job.

Unemployment that arises because workers have imperfect information about job openings and need to engage in a time-consuming job search is called *frictional unemployment*.

Wage Rigidity and Structural Unemployment (1 of 12)

There also could be **wage rigidity**, where the market wage, w, is held above the market-clearing level, w^*.

Unemployment that results from a persistent gap between the quantity of labor supplied, L, and the quantity of labor demanded, L^*, is called **structural unemployment**.

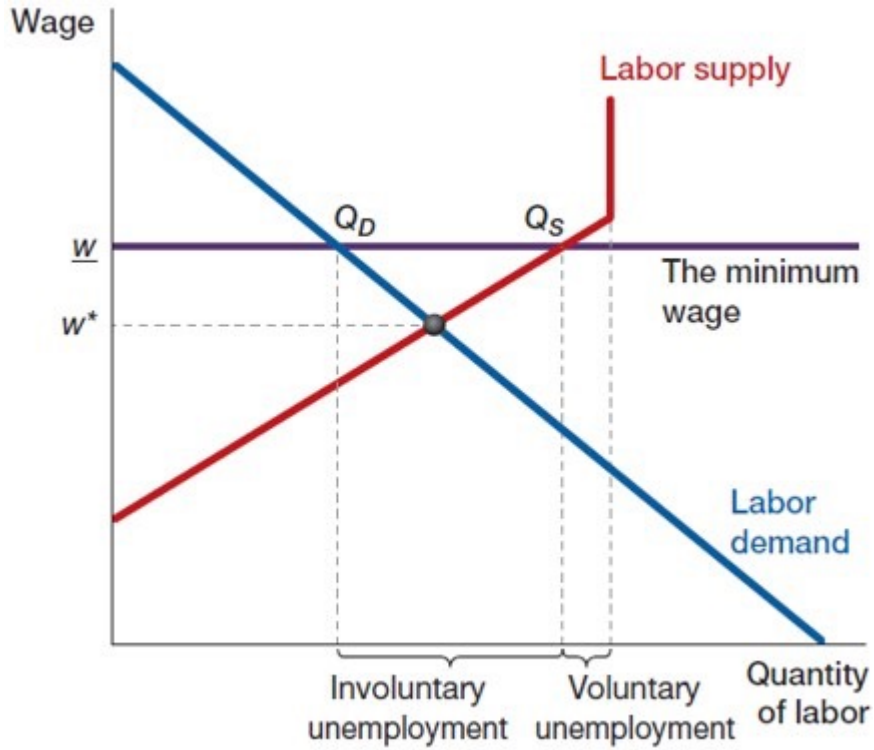
Wage Rigidity and Structural Unemployment (2 of 12)

Question: What can cause wage rigidity?

- Minimum wage laws are imposed.
- Labor unions negotiate higher wages.
- Firms pay higher wages to raise worker productivity.
- Workers resist wage reductions.

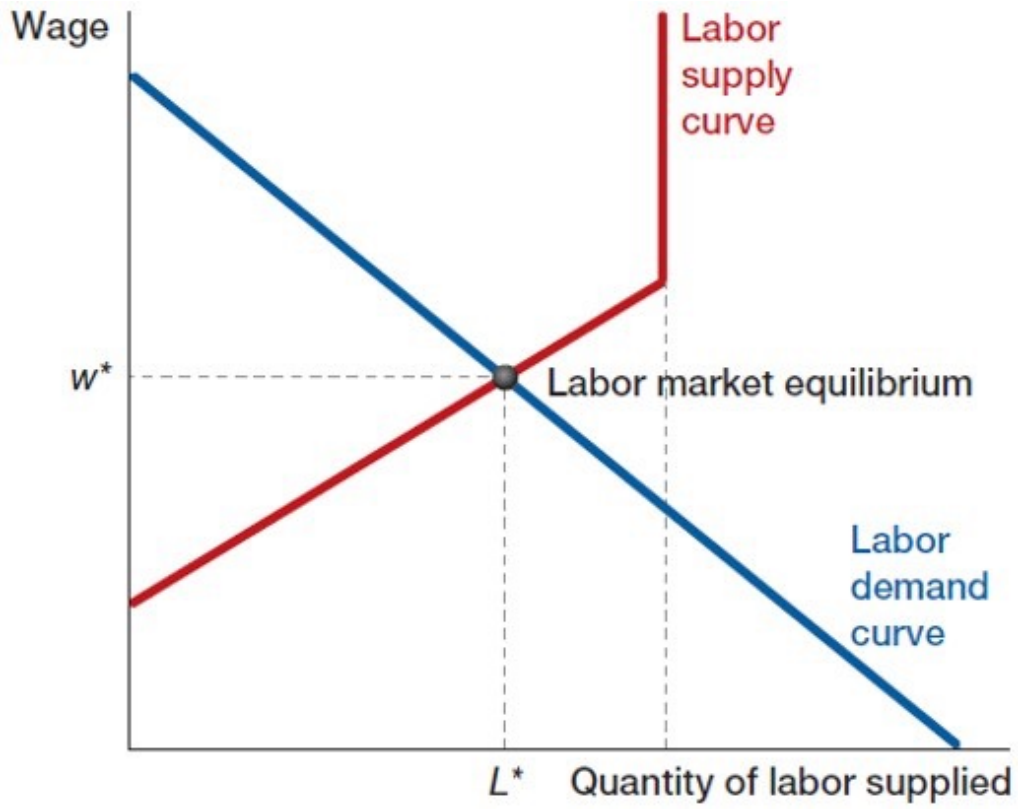
Wage Rigidity and Structural Unemployment

Exhibit 9.9: Labor Supply and Labor Demand in a Market with a Minimum Wage



Wage Rigidity and Structural Unemployment

Competitive Equilibrium in the Labor Market



Wage Rigidity and Structural Unemployment

Minimum wage laws cannot be the main cause of unemployment.

Why? In 2013, 1.5 million workers (1% of total) were paid the minimum wage.

There were 1.6 million *unemployed* college graduates whose median hourly wage rate was close to $30 per hour.

Wage Rigidity and Structural Unemployment

Labor unions negotiate contracted wage rates through collective bargaining that may be above the market-clearing wage, w^*.

Wage Rigidity and Structural Unemployment

Collective bargaining cannot be the main cause of unemployment.

Why? In 2013, only 14.5 million workers (11% of total) were members of public- and private-sector unions.

Wage Rigidity and Structural Unemployment

Firms may *willingly* pay above the market-clearing wage to increase worker productivity.

These *efficiency wages* increase productivity by:

1. Reducing worker turnover
2. Reducing shirking
3. Motivating workers to work harder
4. Improving the quality of job applicants

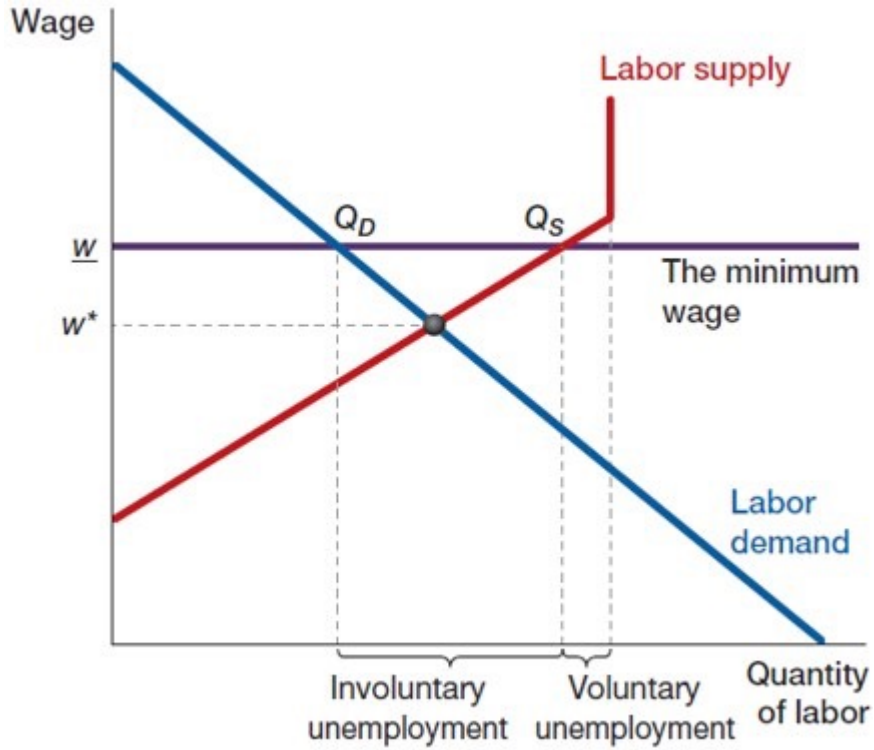
Wage Rigidity and Structural Unemployment

Workers are highly adverse to reductions in wages, resulting in what economists call **downward wage rigidity**.

As a result, most firms would rather fire some workers than cut wages of all or many workers.

Wage Rigidity and Structural Unemployment

Exhibit 9.9: Labor Supply and Labor Demand in a Market with a Minimum Wage

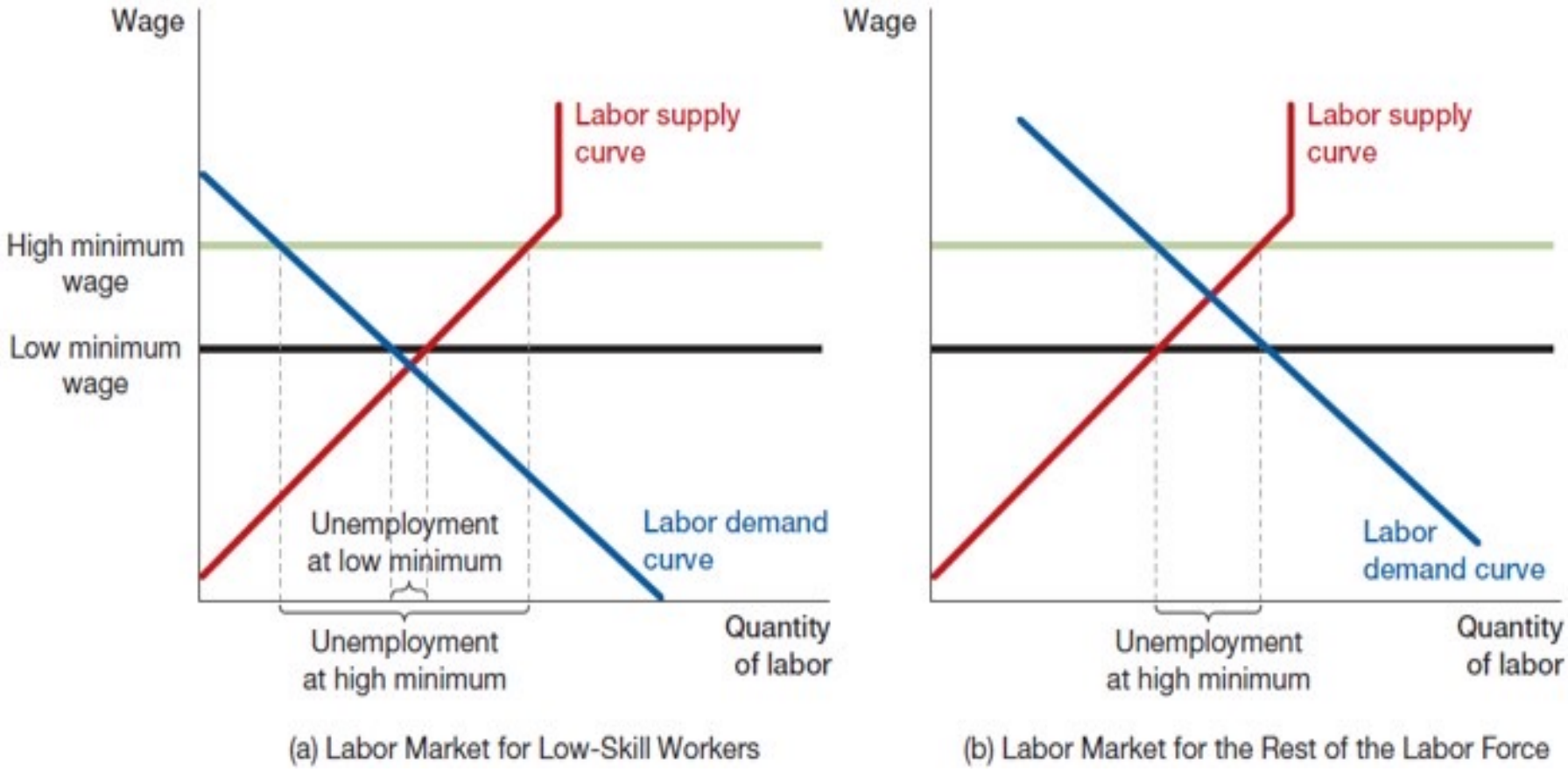


Wage Rigidity and Structural Unemployment

We can see the importance of **downward wage rigidity** by looking at the distribution of wage increases at one large firm in 2008 during the Great Recession.

What about skill?

Effects of a Minimum Wage on the Labor Market for Workers



Employment and Unemployment (1 of 8)

Evidence-Based Economics Example

Question: How did unemployment and wages respond to the COVID-19 pandemic in the United States?

Data: The Bureau of Labor Statistics collects employment, unemployment, and wage data using the Current Population Survey (CPS). New claims for unemployment insurance are reported by the U.S. Employment and Training Administration.

Employment and Unemployment (2 of 8)

By January 2020, COVID-19 had spread across the globe. By early March, the threat posed by the pandemic had become far clearer and experts began to forecast that millions of COVID-19 deaths would occur before a vaccine could be developed.

In the United States, school closures and regional lockdowns started in March 2020 and rapidly intensified throughout that spring. Tens of millions of consumers had drastically cut back on their spending.

Employment and Unemployment (3 of 8)

Governors were requiring many businesses to temporarily suspend operations. Bars, restaurants, airlines, hotels, and myriad other businesses suddenly had little or no demand for their products.

The economic impact of COVID-19 was primarily a massive shift to the left of the labor demand curve. This labor demand shortage pushed the U.S. economy into a sudden and deep contraction.

Employment and Unemployment (4 of 8)

In a single month in March 2020, the U.S. unemployment rate jumped from 4.4% to 14.7%--a 10.3 percentage point increase in a single month.

This enormous jump is 20 times more extreme than a typical one-month increase during a deep recession.

About 17 million U.S. workers lost their jobs in just one month.

Employment and Unemployment (5 of 8)

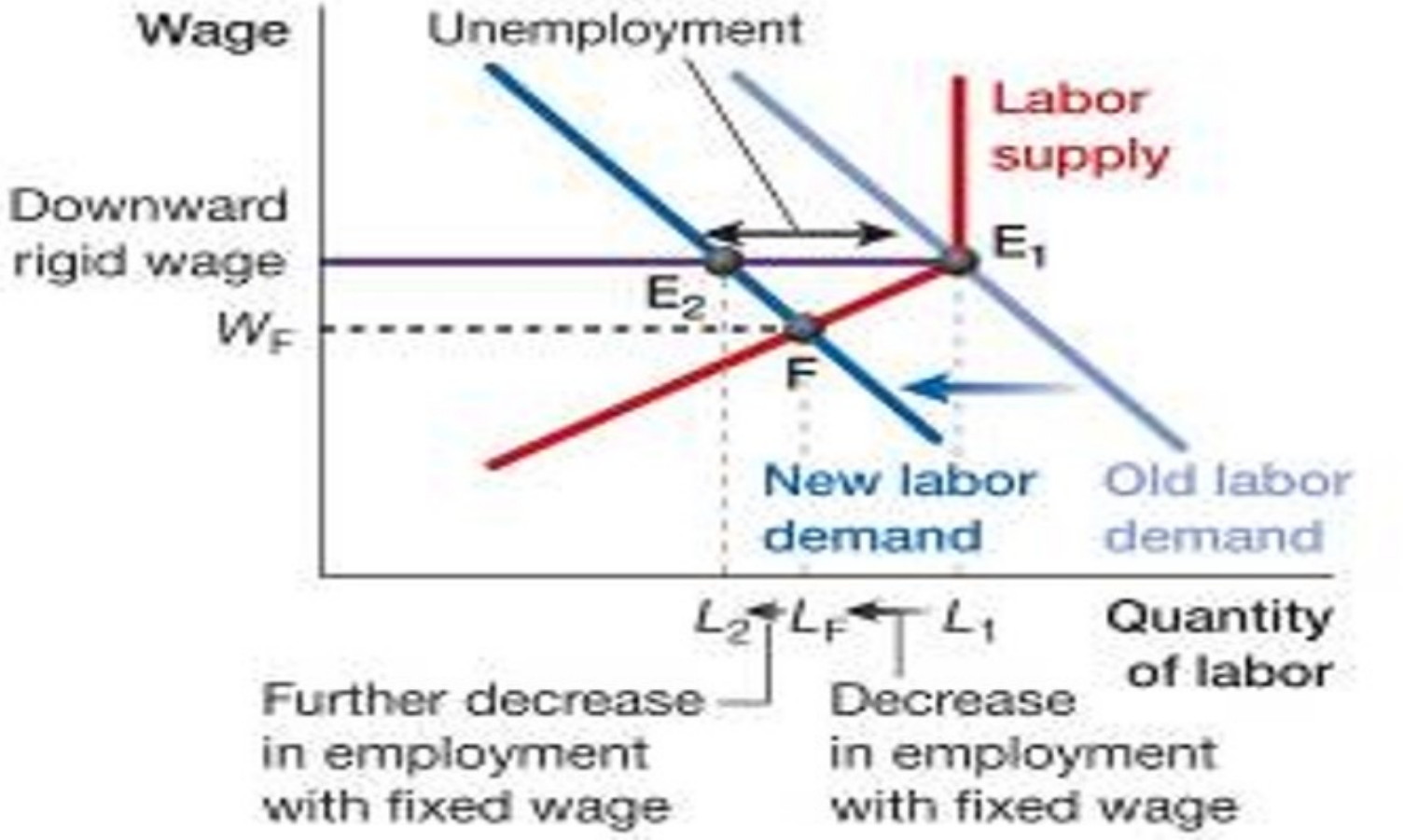
In a world of flexible wages, a collapse in labor demand would produce a drop in the equilibrium wage. But this didn't happen in 2020, as predicted by downward wage rigidity.

As shown in Exhibit 9.11, downward wage rigidity kept each worker's wage fixed.

Firms under pressure chose to pay off workers, rather than drastically cut wages.

Employment and Unemployment (6 of 8)

Exhibit 9.11: Shifts in Labor Demand Affect Equilibrium in the Labor Market



Employment and Unemployment (7 of 8)

Workers with low wages (restaurant waiters for example) were far more likely to lose their jobs than workers with high wages (workers who could work remotely).

The composition of employed workers shifted toward high-wage workers.

This, coupled with downward wage rigidity, caused the average wage among employed workers to rise in the spring of 2020.

Employment and Unemployment (8 of 8)

Evidence-Based Economics Example:

Question: How did unemployment and wages respond to the COVID-19 pandemic in the United States?

Answer: Unemployment rose very sharply in the spring of 2020. The unemployment rate rose from 4.4% to 14.7% in March. Twenty-two million workers applied for unemployment insurance in one four-week period. However, wages barely changed for those workers who were lucky enough to keep their jobs.

Natural Rate of Unemployment and Cyclical Unemployment

Similar to decomposing GDP into trend and business cycle, the actual unemployment rate can also be decomposed into
(1) the natural rate of unemployment – the average unemployment rate over an extended period.
(2) cyclical unemployment – deviation of unemployment rate from its natural rate

Natural Rate of Unemployment and Cyclical unemployment

- During 1977-2013, the average unemployment rate is 16.1% in Spain and 6.5% in the U.S.
- In 2013, the actual unemployment rate is 26.1% in Spain and 7.4% in the U.S.

	Actual unemployment in 2013	Natural rate of unemployment (average, 1977-2013)	Cyclical unemployment In 2013
Spain	26.1%	16.1%	10%
U.S.	7.4%	6.5%	0.9%

Five Types of Unemployment

- Cyclical unemployment
- Structural unemployment
- Frictional unemployment
- Natural unemployment
- Seasonal unemployment