



Lecture 2 (Part 2)

Unemployment

2



3

Lecture Outline

- ▶ Measuring unemployment
- ▶ Issues related to unemployment
- ▶ Labour market: demand and supply
- ▶ Types of Unemployment

4

Measuring Unemployment

Unemployment

Population Age ≥ 16



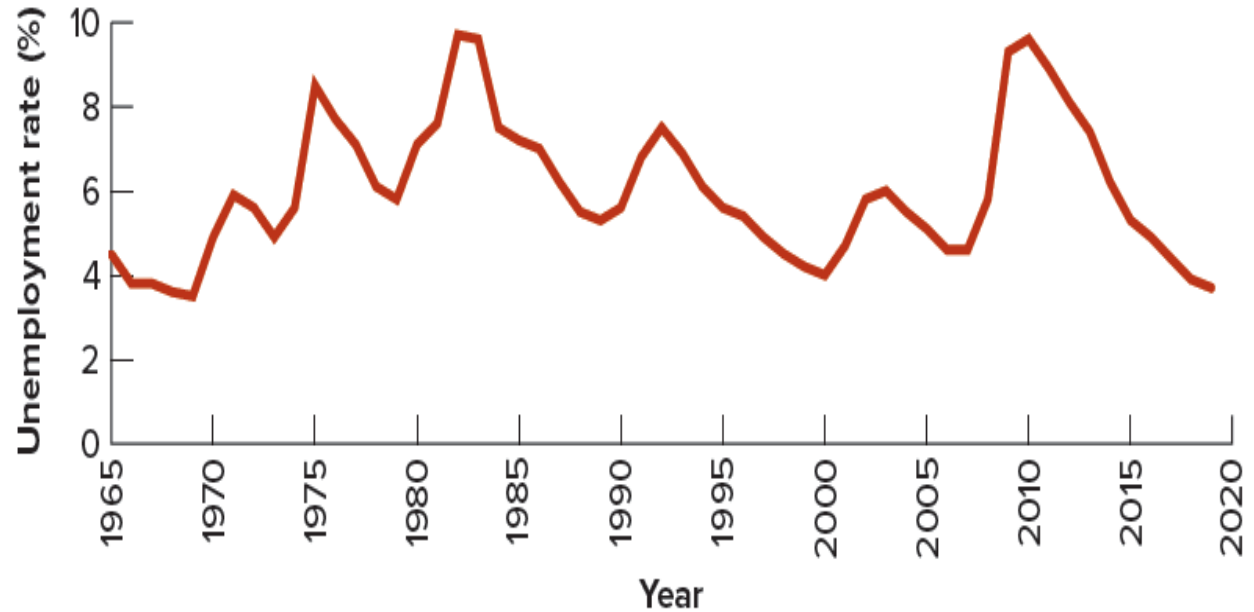
- ▶ **Labour force** = employed + unemployed
- ▶ **Unemployment rate** = unemployed / labour force
- ▶ **Participation rate** = labour force / population 16+

U.S. Employment Data, November 2019 (in millions)

Employed	158.59 million
Unemployed	5.81 million
Labour Force	164.40 million
Not in the Labour Force	95.62 million
Working-Age Population	260.02 million
Unemployment Rate	3.5%
LF Participation Rate	63.5%

7

U.S. Unemploy- ment Rate, 1965 - 2019



8

Issues Related to Unemployment

Costs of Unemployment

- ▶ **Economic costs**
 - ▶ Lost wages and production
 - ▶ Decreased taxes and increased transfers
- ▶ **Psychological costs**
 - ▶ Individual self-esteem
 - ▶ Family stress of decreased income and increased uncertainty
- ▶ **Social costs**
 - ▶ Potential increases in crimes and social problems
 - ▶ Social resources spent to address these

Duration of Unemployment

- ▶ Costs of unemployment are directly related to the length of time a person has been unemployed
 - ▶ **Unemployment spell** is the period during which an individual is continuously unemployed
 - ▶ **Duration of unemployment** is the length of the unemployment spell
- ▶ The unemployed population:

Duration (weeks)	5 or less	5 – 14	More than 14
% of unemployed (Nov 2019)	34%	30%	36%
% of unemployed (Aug 2020)	17%	23%	60%

Duration of Unemployment

- ▶ **Long-term unemployed:** out of work for 6 months or longer
 - ▶ Highest costs
- ▶ **Short-term unemployed:**
 1. Find a permanent job
 - Economic costs are low
 2. Leave the labour force
 3. Take on a short-term or temporary job that leads to unemployment again
 - *Chronically unemployed*
 - Economic costs similar to the long-term unemployed

- ▶ **Discouraged workers:** people who say they would like to have a job but have not made an effort to find one in the past four weeks
 - ▶ Counted as out of the labour force
 - ▶ Could be counted as unemployed but are not
- ▶ **Involuntary part-time** workers: people who say they would like to work full-time but are able to find only part-time job
 - ▶ Counted as employed
- ▶ US's Nov 2019 unemployment rate was 3.5%
 - ▶ Including discouraged workers and involuntary part-time workers would make the rate 6.9%

Labour Market: Demand and Supply

The Labour Market

- ▶ Supply and demand analysis can be used to find the **price** (real wages) and the **quantity** (employment) of labour
- ▶ Demanders
 - ▶ **Firms** demand labour to produce goods and services
- ▶ Suppliers
 - ▶ People working for pay

Demand for Labour

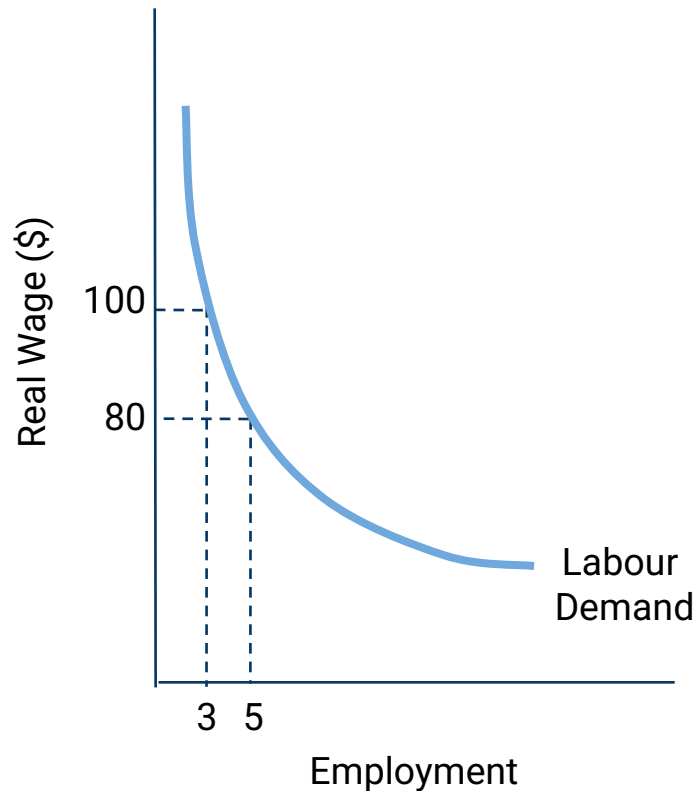
- ▶ What determines the number of workers employers want to hire at any given wage?
- ▶ **Demand for labour** depends on:
 1. Productivity of workers
 - ▶ *Marginal product*: additional production gained by adding one more worker
 - ▶ *Diminishing returns to labour*
 - If amount of capital and other inputs in use is held constant, then the greater the quantity of labour already employed, the less each additional worker adds to production
 2. Price of the worker's output
- ▶ **Value of Marginal Product (VMP)** is extra revenue that an added worker generates

- ▶ DSB can sell all its butter cakes for \$5 each

Number of Workers	Cake per Day	Marginal Product	Value of Marginal Pdt
1	25	25	\$125
2	48	23	115
3	69	21	105
4	88	19	95
5	105	17	85
6	120	15	75
7	133	13	65
8	144	11	55

Demand Curve for Labour

- ▶ Hire an extra worker if and only if the VMP exceeds the wage paid
 - ▶ If wage is \$100, DSB will hire 3 workers
 - ▶ If wage is \$80, DSB will hire 5 workers
- ▶ The lower the wage, the more workers employed



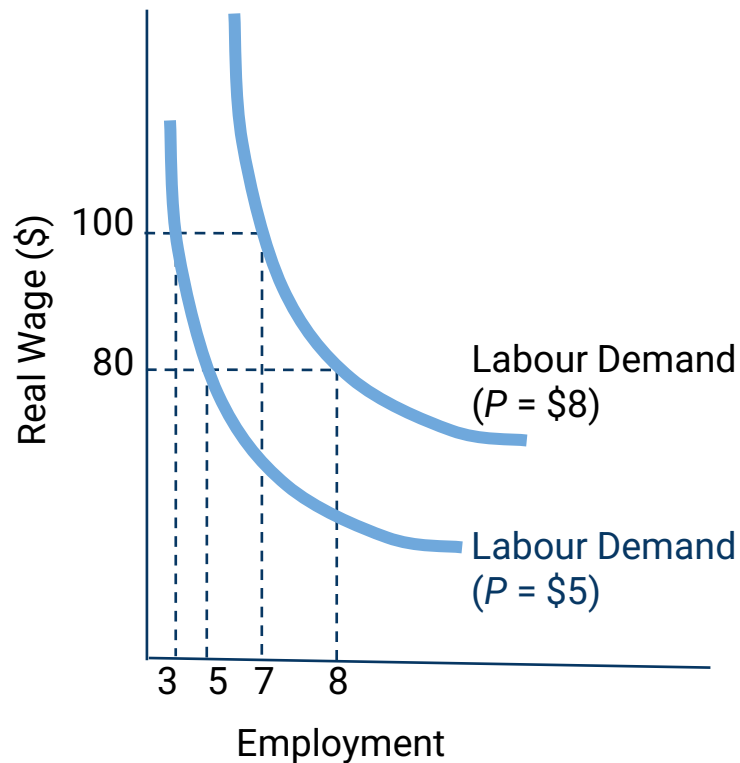
Shifts in Demand for Labour

- ▶ Two main factors that increase a firm's demand for labour (VMP)
 1. The price of the company's output
 - An increase in market demand
 2. The productivity of the workers
 - Greater quantity/quality of non-labour inputs
 - Organizational change
 - Training and education

19

Increase in Price of Output

- ▶ If the price of workers' output increases, demand for labour increases, demand curve shifts to the right
- ▶ Employers hire more workers at any given wage

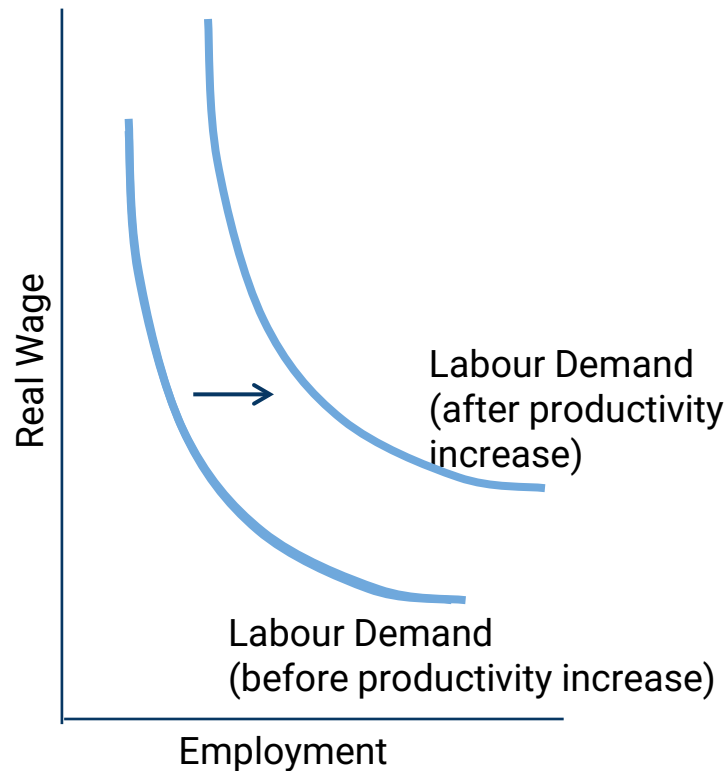


- ▶ DSB can sell all its butter cakes for \$8 each

Number of Workers	Cake per Day	Marginal Product	Value of Marginal Pdt
1	25	25	\$200
2	48	23	184
3	69	21	168
4	88	19	153
5	105	17	136
6	120	15	120
7	133	13	104
8	144	11	88

Higher Productivity

- ▶ Increases in productivity increase VMP
- ▶ Demand curve shifts right
- ▶ Employers hire more workers at any given wage



Supply of Labour

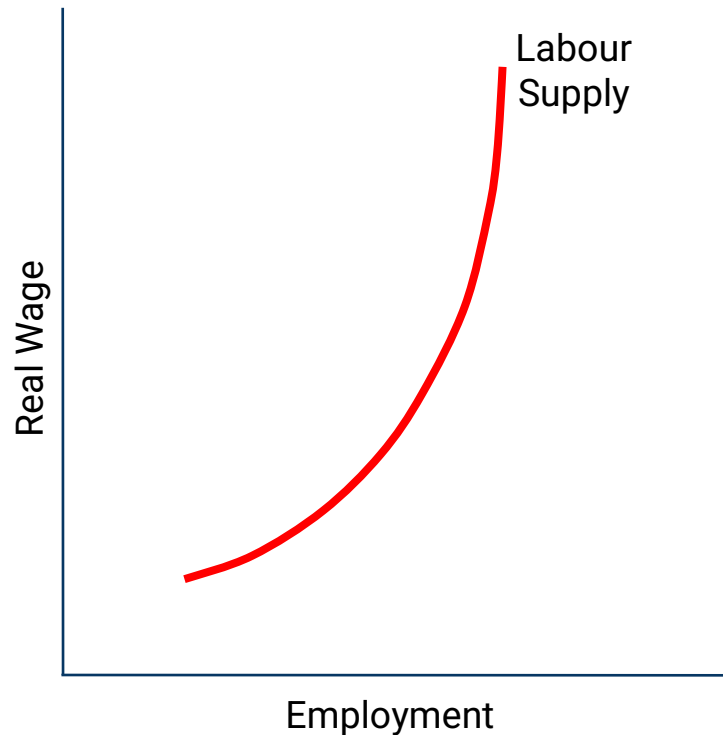
- ▶ Suppliers of labour are workers and potential workers
- ▶ The total number of people who are willing to work at each real wage is the supply of labour

Supply of Labour

- ▶ What determines a worker's willingness to work?
- ▶ \$\$
- ▶ Cost-benefit Principle
 - ▶ Opportunity cost of working is your leisure activity/study
 - ▶ Income from work compensates you for your opportunity cost
- ▶ *Reservation wage* is the lowest wage a worker would accept for a given job

Supply of Labour

- ▶ The labour supply curve slopes up because at a higher real wage, more people are willing to work



Shifts in Supply of Labour

- ▶ Any factors that affects the quantity of labour offered at a given real wage will shift the labour supply curve
 1. Size of the working age population
 - Domestic birthrate
 - Immigration and emigration
 - Ages when people enter and retire from the workforce
 2. Share of working-age population seeking employment
 - E.g. more women joining the workforce

Types of Unemployment

Types of Unemployment

- ▶ **Frictional unemployment** occurs when workers are between jobs
 - ▶ Short duration, low economic cost
 - ▶ May increase economic efficiency
- ▶ **Cyclical unemployment** is the increase in unemployment during economic slow-downs
 - ▶ Usually short duration
 - ▶ Economic cost is the decline in real GDP

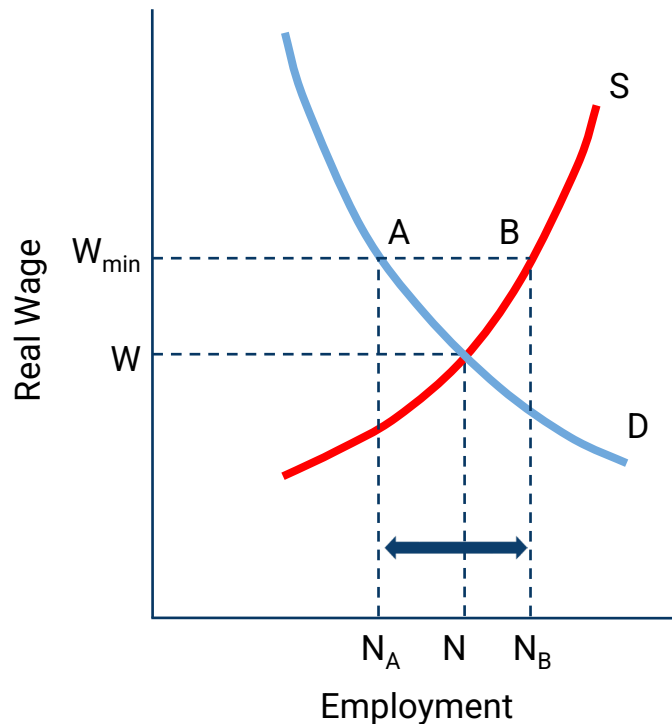
Types of Unemployment

- ▶ **Structural unemployment** is long-term, chronic unemployment in a well-functioning economy
 - ▶ Lack of skills, language barriers, or discrimination
 - ▶ Structural shifts in production create a long-term mismatch between workers and market needs
 - ▶ Barriers to employment such as
 - Minimum wages
 - Unions
 - Unemployment Insurance
 - ▶ High economic, psychological, and social costs

Structural Barriers to Employment

Minimum Wage Laws

- ▶ Setting a minimum wage (W_{\min}) above equilibrium (W) creates ($N_B - N_A$) unemployment
- ▶ Workers who find a minimum-wage job get a higher wage
- ▶ Others are unemployed



- ▶ **Unemployment insurance** is a government transfer to unemployed workers
 - ▶ Helps to reduce the costs of unemployment
 - ▶ May give the unemployed an incentive to search longer and less intensely
- ▶ To work efficiently, unemployment benefits should be
 - ▶ For a limited time
 - ▶ Less than the income received when working

Other Government Regulations

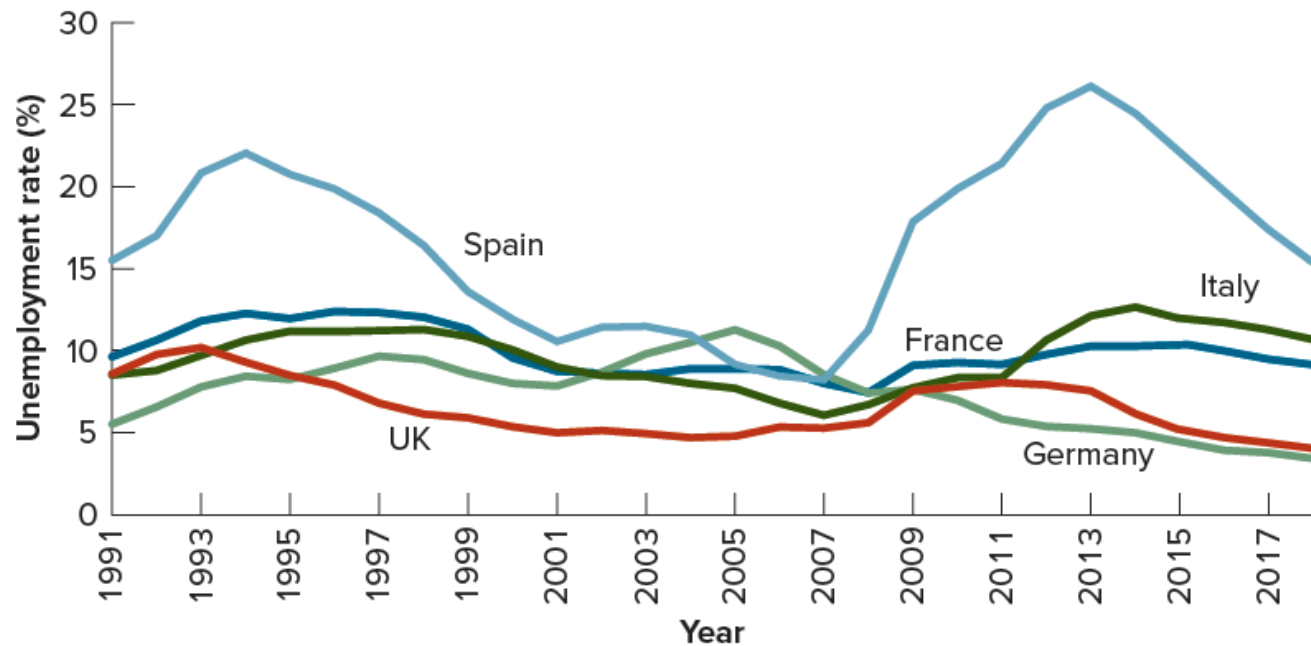
- ▶ **Health and safety regulations** can reduce the demand for labour by
 - ▶ Increasing employer costs
 - ▶ Reducing productivity
- ▶ The reduction in demand will increase unemployment and lower wages

Impediments to Full Employment

- ▶ Many of these impediments can explain the differences in the employment rate between the U.S. and western Europe
- ▶ European labour markets are highly regulated
 - ▶ High minimum wage
 - ▶ Little flexibility in benefits
 - ▶ More powerful unions
- ▶ This, combined with globalization and skill-biased technological change, has reduced employment in Europe

33

Unemployment in Western Europe, 1991-2018



A close-up photograph of a hand holding a blue pen, poised to write on a white sheet of paper. The hand is wearing a grey, textured sweater. The background is blurred, showing more of the paper and the hand.

34

THANKS!

Any questions?

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