

# Ch 18: Wages and Unemployment

Understanding the labor market is key to understanding the macroeconomy.

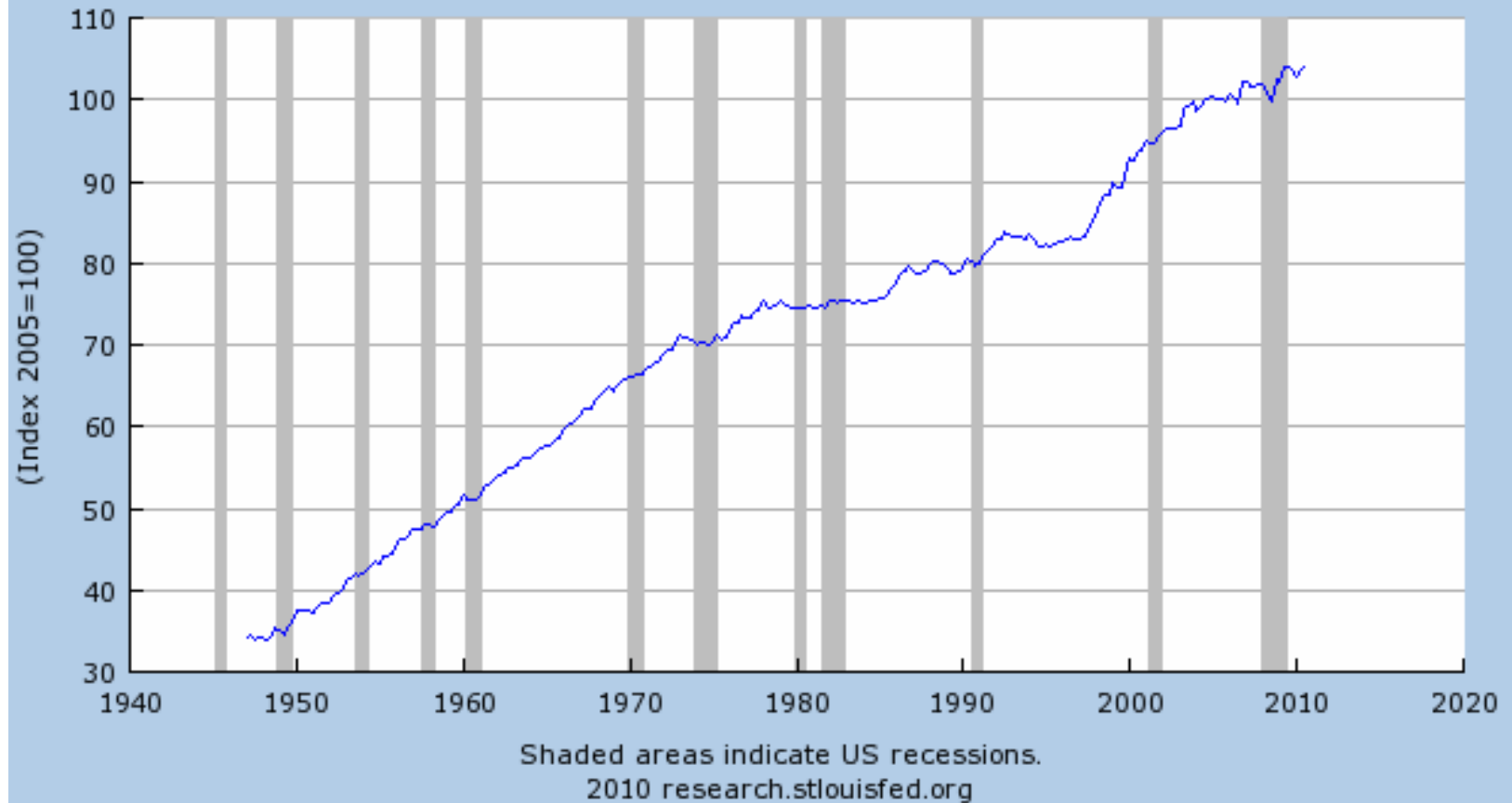
In this section, we will discuss:

- Some important trends in labor markets
- Use supply and demand to understand the labor market
- Talk about measures of the state of the labor market.

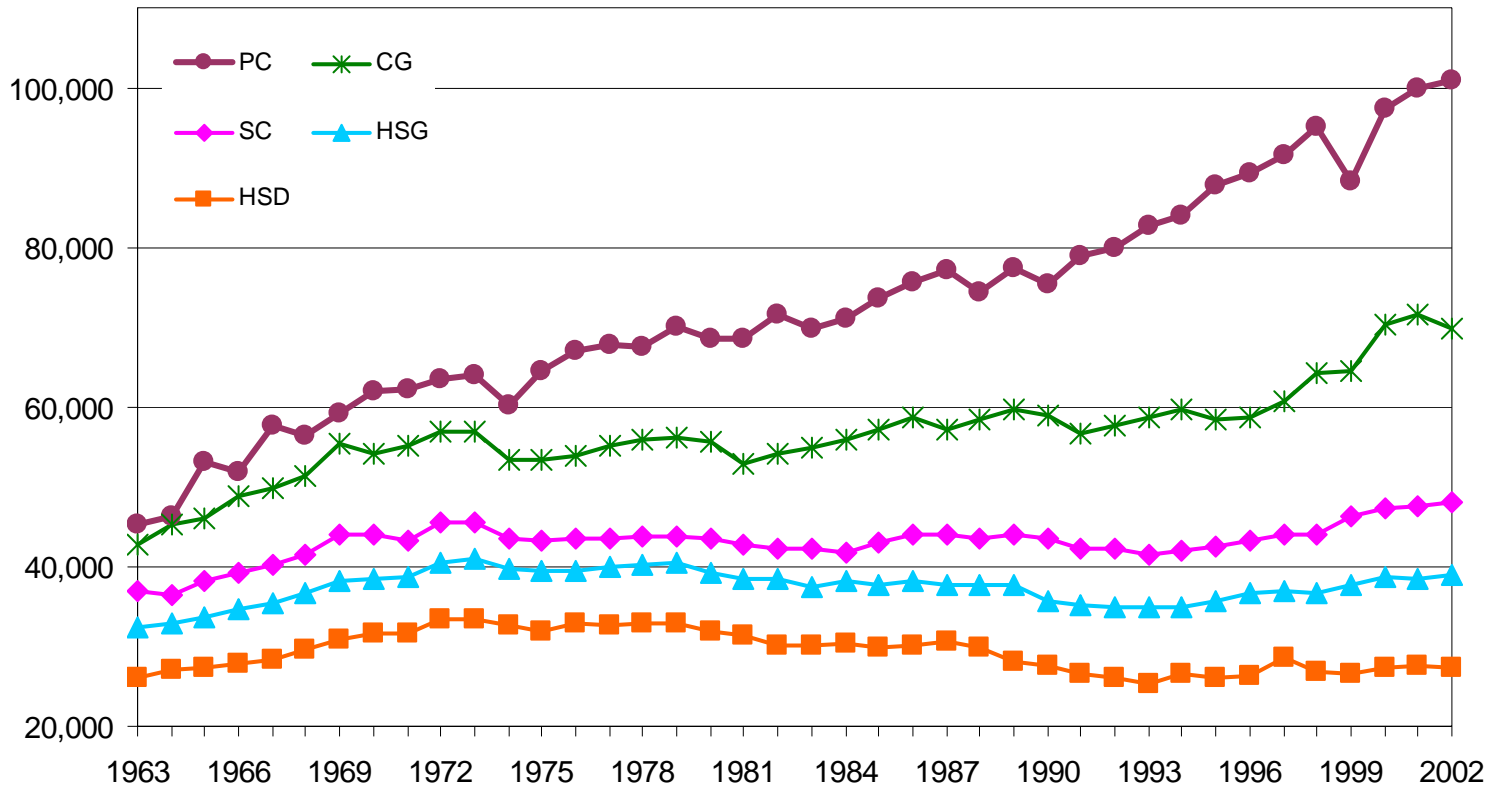
# I. Five Important Labor Market Trends

Trends in Real Wages

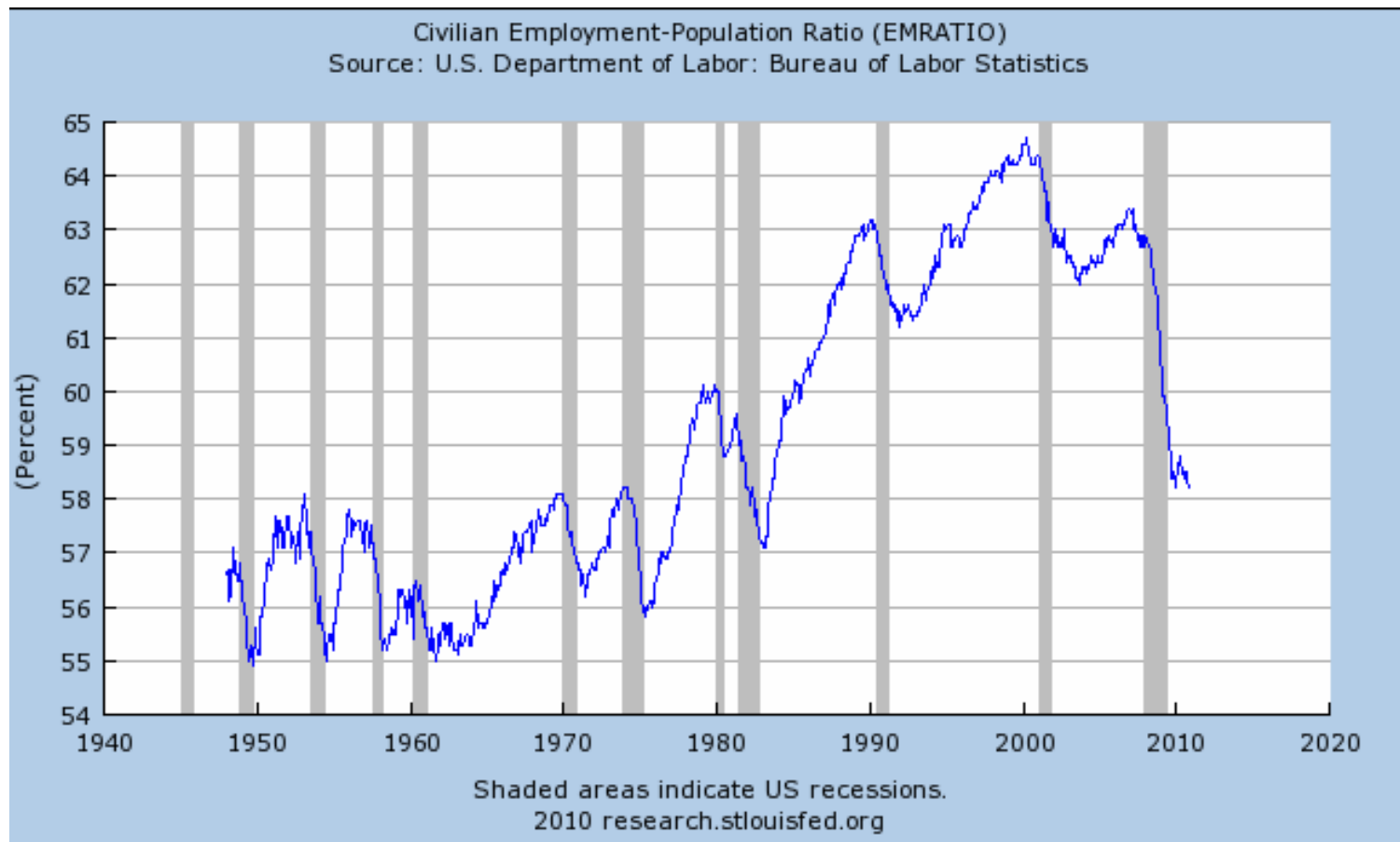
Business Sector: Real Compensation Per Hour (RCPHBS)  
Source: U.S. Department of Labor: Bureau of Labor Statistics



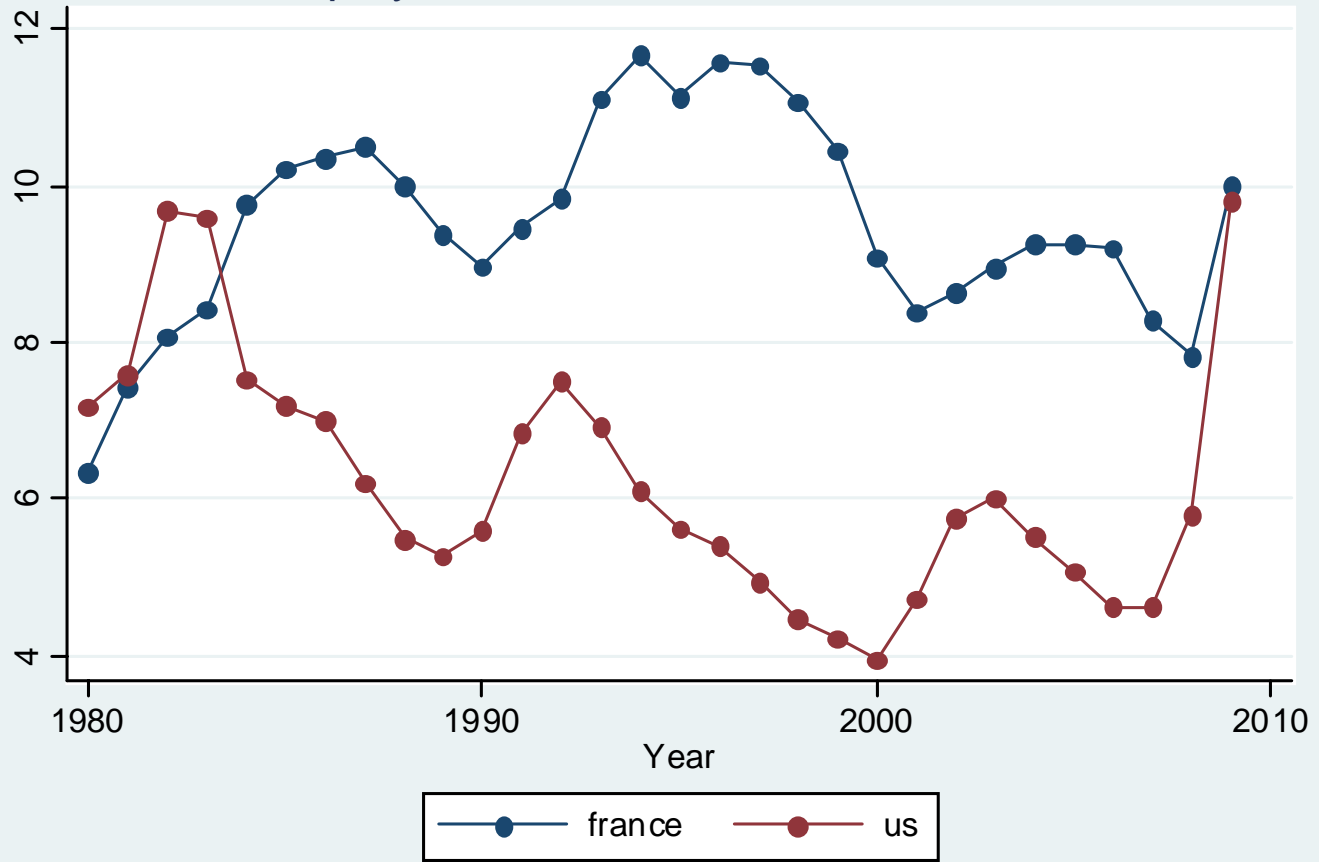
## Average constant-dollar wages of full-time males, age 22 - 65 by educational group, 2002 dollars



# Trends in Employment and Unemployment



### Unemployment Rate Trends in France vs. US



## II. Supply and Demand in the Labor Market

### A. Labor Demand Curve

Why does a company hire workers even though it must pay them? Because it expects to receive more in extra revenue than it must pay.



## Example

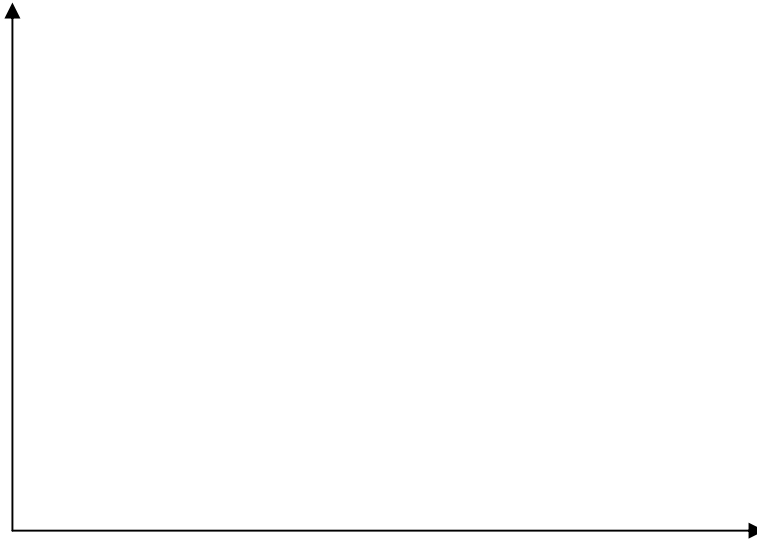
| # of workers | # of goods produced | Marginal Product | Value of MP (P = \$5) |
|--------------|---------------------|------------------|-----------------------|
| 0            | 0                   |                  |                       |
| 1            | 30                  | 30               | 150                   |
| 2            | 55                  | 25               | 125                   |
| 3            | 75                  | 20               | 100                   |
| 4            | 90                  | 15               | 75                    |
| 5            | 100                 | 10               | 50                    |

To maximize profits, the firm should hire workers up to the point where:

In fact, the demand curve is defined implicitly by:



## B. Shifts in the Demand for Labor



## B. Shifts in the Demand for Labor (cont.)



## C. Labor Supply Curve

Basic premise: People enjoy leisure and consumption.

So utility depends on both:

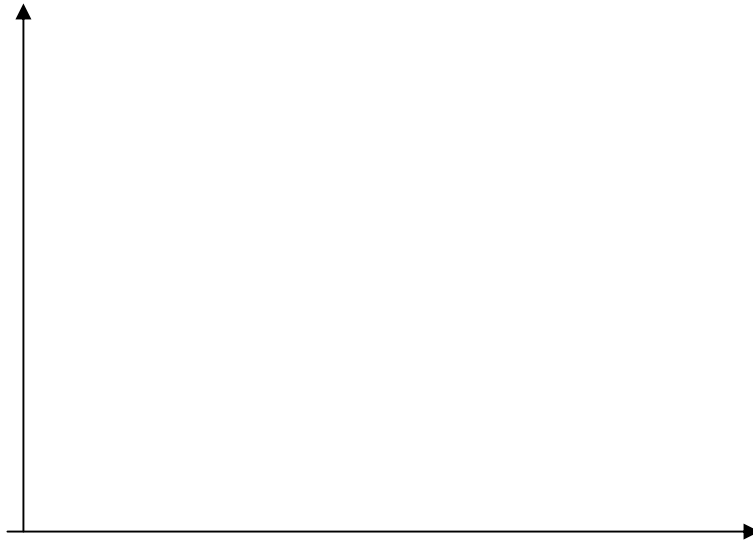
$$U(\text{Consumption}, \text{Leisure})$$

But the only way to buy goods is to earn income, so you must give up leisure.

Time endowment =  $T$  = Hours of work + hours of leisure

Budget constraint:

Suppose your wage increases. How should you respond?



## D. Shifts in Labor Supply



### III. Explaining Trends in Real Wages and Employment

We can now combine supply and demand to try to explain trends in real wages and employment.

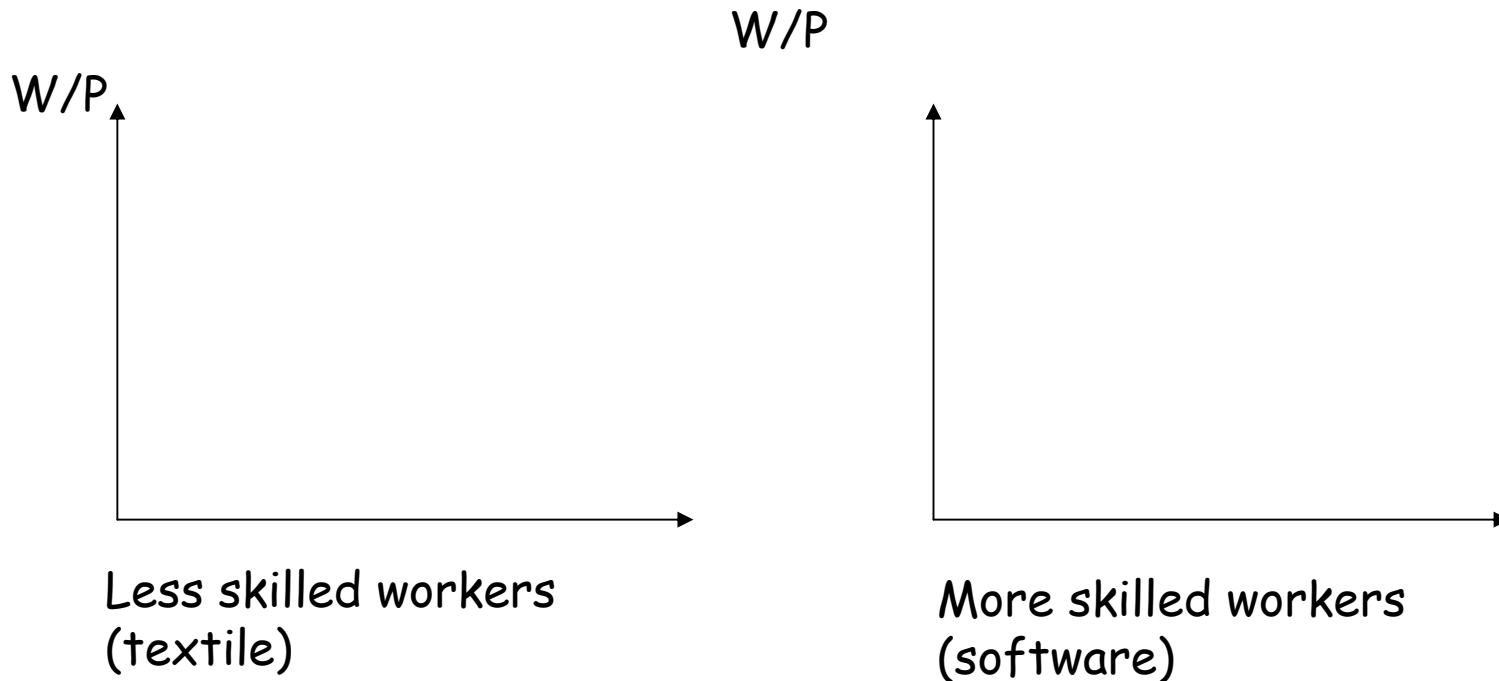
A. Why Real Wages have increased over time.



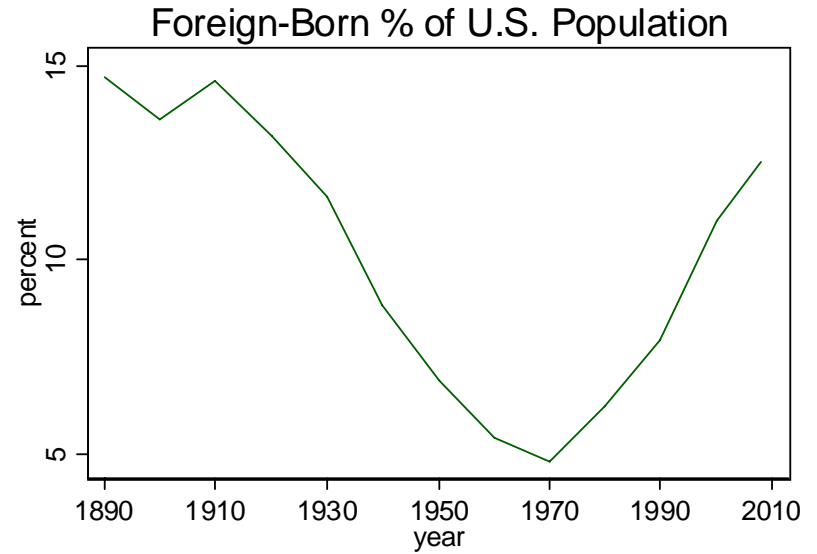
B. Why wage growth slowed down.



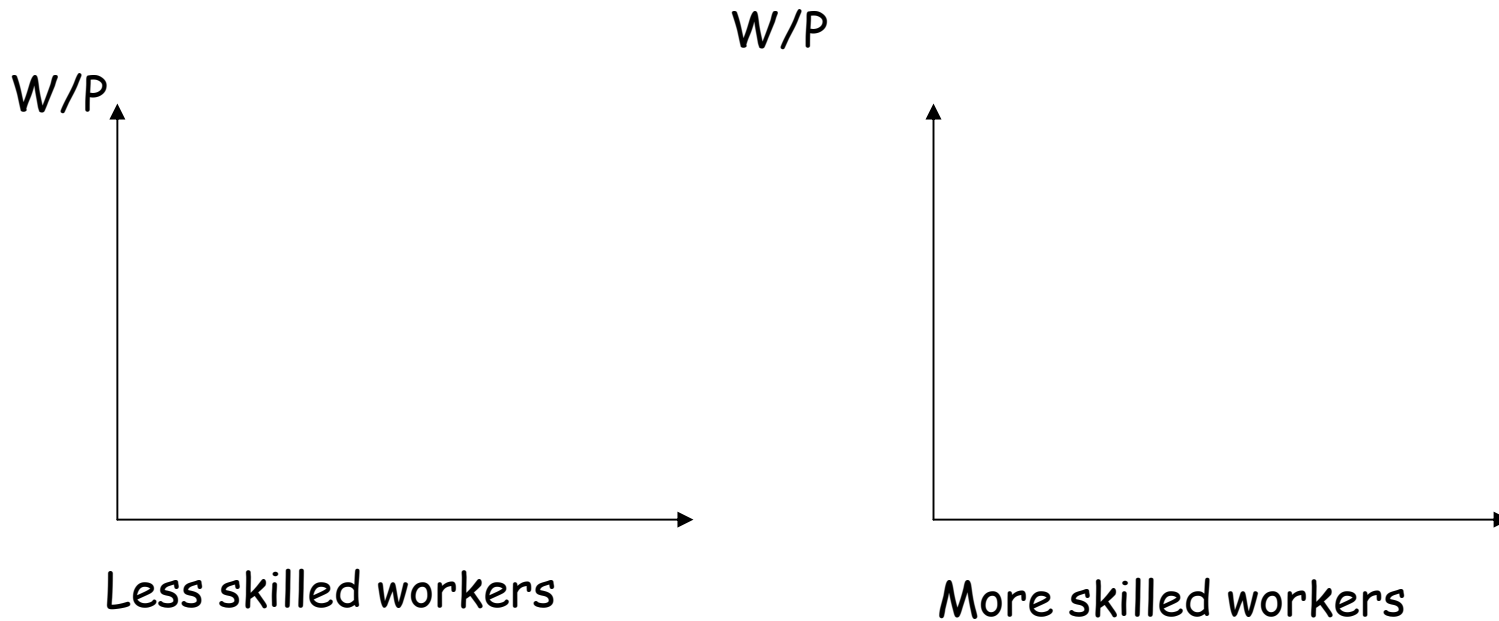
### C. Why wage inequality increased



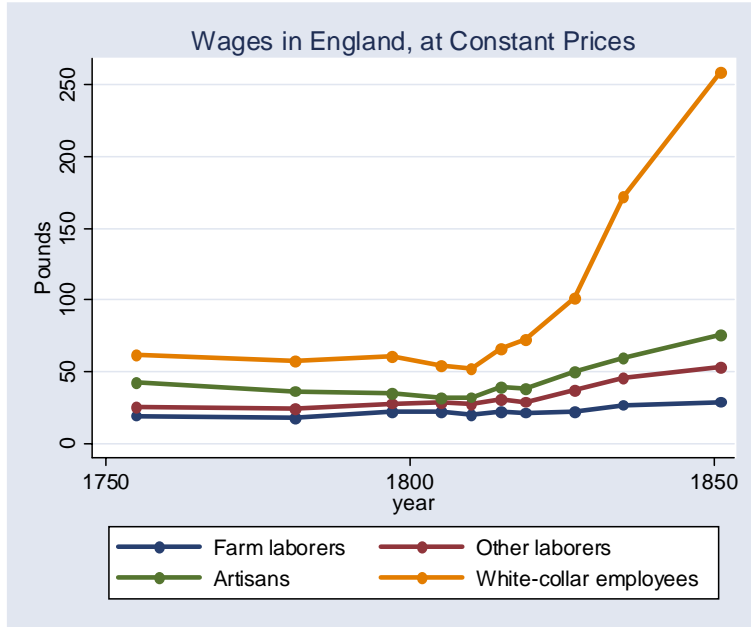
### C. Why wage inequality increased (cont.)



### C. Why wage inequality increased (continued)



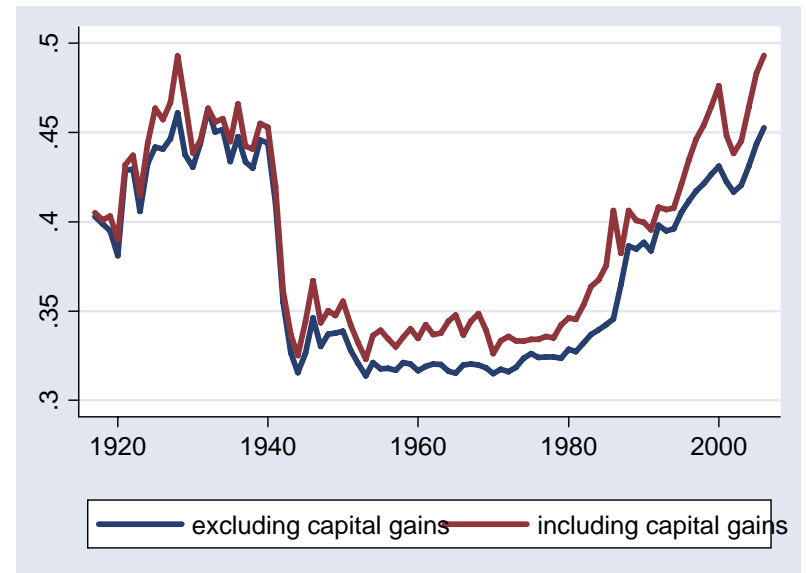
# Industrial revolution



Estimates from Lindert-Williamson (1983)

## Electrification and the IT Revolution

Income Share of the Top 10% of the Income Distribution, 1917 - 2006



# IV. Unemployment and the Unemployment Rate

## A. Measuring Unemployment

BLS surveys about 60,000 households. Each person 16+ is categorized as:

**Employed:** worked full-time or part-time during the past week, or is on vacation or sick leave from regular job.

**Unemployed:** did not work during the preceding week, but made some effort to find work, such as going to a job interview during the past 4 weeks.

**Out of the labor force:** did not work in the past week and did not look for work in the past 4 weeks.

## More Definitions:

**Labor Force:** the number of people employed or unemployed.

**Employment rate:** number employed divided by noninstitutional population ages 16+

**Labor force participation rate:** number in labor force divided by noninstitutional population ages 16+

**Unemployment rate:** number unemployed divided by labor force

## U.S. November 2010

|  |               |
|--|---------------|
| Total population                       | 308.7 million |
| Civilian noninstitutional pop ages 16+ | 238.7 million |
| Civilian employment                    | 138.9 million |
| Civilian unemployment                  | 15.1 million  |

# Measurement issues

1. True unemployment might be higher than measured because:



## Measurement issues (continued)

2. True unemployment may be less than measured because:

## IV. Types of Unemployment

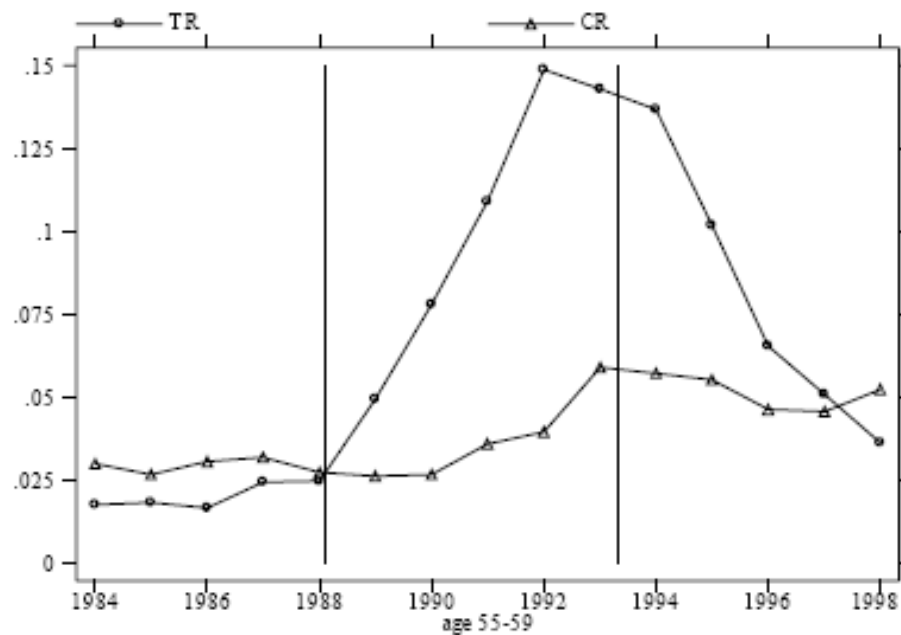
**Frictional** - short-term unemployment associated with the process of matching workers with jobs.

**Structural** - long-term or chronic unemployment due to lack of skills, language barriers, discrimination, skill mismatch. Etc.

**Cyclical unemployment** - Type of unemployment that occurs during recessions

# V. Impediments to Full Employment

## V. Impediments to Full Employment (cont.)



## VI. Why are Unemployment Rates so High In Western Europe?

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