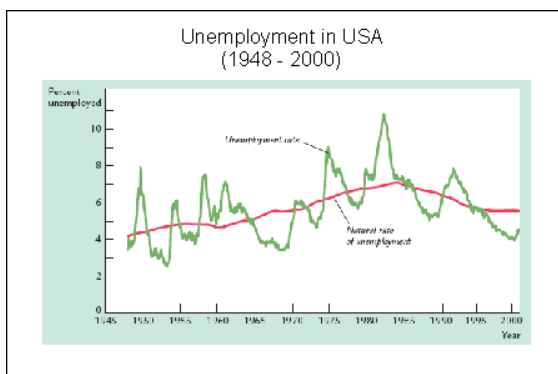


## 6 Labor markets and unemployment

### 6.1 Introduction

- In the classical competitive (Walrasian) markets, the labor market is cleared by equilibrium real wage - everybody who wants to work at prevailing wage will work
  - labor demand - profit maximization of firm
  - labor supply = HHs optimize between consumption and leisure
- However, in reality the economy faces **unemployment** = existence of people who are not working but who say they would want to work in jobs like those held by individuals similar to them at the same wages
  - macro issue that affects people most directly and severely (loss of income, loss of skills, loss of social status)
  - target of many economic policies (activation programs, unemployment benefits, minimum wage )



- Question that an economist should ask:  
**Is the existence of nonzero average unemployment over time a market failure? What are its causes and consequences?** - 2 positions:
  - unemployment as natural implication of frictions (obstacles, imperfections) in the process of matching workers and jobs - inevitable

- unemployment as result of non-Walrasian features of the economy (labor market is not clearing at prevailing wage) - waste of resources
- in competitive (Walrasian) markets, higher supply of labor (unemployed workers) would drive the wages down until balance is restored
- possible departure mechanisms:
  1. heterogeneity among jobs and workers implies that job search and matching takes time => **frictional unemployment**
  2. real wage fails to adjust and balance labor demand and supply => **"classical" unemployment**
  3. sectoral shifts => **structural unemployment**  
composition of demand among industries or regions is changing, e.g. trade patterns, computer revolution (new jobs, new skills)
  4. seasonality => **seasonal unemployment**  
e.g. peak in February and June, unemployment rate in Croatia
  5. lacking AD => **cyclical unemployment**

## 6.2 Natural rate of unemployment

Why there exists a certain natural level of unemployment - simple model:

- notation:  $L$  - labor force,  $E$  - number of employed workers,  $U$  - number of unemployed workers,  $u$  - unemployment rate

$$L = E + U, \quad u = \frac{U}{L}$$

- let's denote rate of **job separation** (layoff, firing, quitting)  $s$  and rate of **job finding**  $f$
- in the steady state (fixed labor force, constant unemployment rate )

$$sE = fU \quad \Rightarrow \quad s(L - U) = fU \quad \Rightarrow \quad s \frac{(L - U)}{L} = f \frac{U}{L}$$

- natural rate of unemployment thus depends on the rates of job finding and job separation

$$u = \frac{s}{s + f}; \quad \nearrow f \Rightarrow \searrow u; \quad \nearrow s \Rightarrow \nearrow u$$

- if a person can always find a job quickly, then for given small  $s$  is  $u \sim 0$

### 6.3 Job search => Frictional unemployment

**Main idea:** it takes time to match workers and jobs - existence of frictions on the market

- heterogeneity among workers (e.g. skills) and jobs (job content, wages)
- asymmetry of information
- low geographical mobility (mainly Europe), limited possibilities for retraining

**Outcome = Frictional unemployment:**

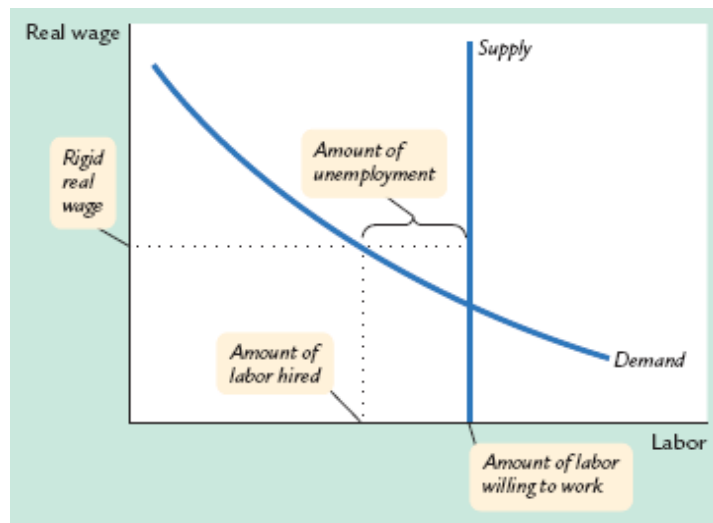
- inevitable due to sectoral shifts - changing labor supply and demand among firms

#### 6.3.1 Public policies

- **labor offices with retraining programmes:**
  - Czech Republic (2008): 43 732 people in retraining - 65% women; average age 38 years; 16% - primary, 35% with vocational education, 26% completed secondary, average length of unemployment - 16 months (60% under 6 months)
- **unemployment benefits**
  - alleviate the economic impact of unemployment - positive
  - decreases the time pressure of finding new job => longer time of search => higher frictional unemployment
  - Czech republic (2009):
    - \* eligibility - employed min 12 months during previous 3 years, actively searching for job;
    - \* time span: under 50 years - 5 months, 50-55 years - 8 months, >55 - 11 months
    - \* amount - 65% of net average wage in the previous job for the first 2 months, 50% of net average wage in next 2 months, 45% of net average wage in the previous job for the the rest, but not more than 0.58 of average wage in economy: in 2009 - max. 13 307 CZK

### 6.4 Real wage rigidity => Classical unemployment

**Main idea:** failure of wages to adjust and balance labor demand and supply => real wage is above the market clearing level



### Causes:

1. **Minimum wage laws:** law prevents firm to cut wage under certain level
  - affects labor decisions of unskilled and inexperienced workers
    - very sensitive subgroup of population
  - negative = decreases demand for unskilled work
  - positive = guarantees minimal income - important criterium in the "work x take social support" decision
2. **Unions and collective bargaining:** agreement with workers prevents firm from cutting wages
  - increased bargaining power of workers => higher wages => lower employment + low job separation
  - different interests and strategies of insiders and outsiders
  - centralization of bargaining + role of government
3. **Efficiency wages:** there are benefits to firm to pay a higher wage
  - reduction of labor turnover and lowering the likelihood of union emergence
  - avoiding **adverse selection** = self selection based on opportunity wage
  - avoiding **moral hazard** = shirking when employer is not able to perfectly monitor my effort

## 6.5 Patterns of unemployment

### 6.5.1 Duration of unemployment

When person becomes unemployed, is the **spell of unemployment** likely to be **short** (i.e. frictional - partly unavoidable) or **long** (structural)?

Empirical evidence (OECD data, 2007):

- average duration of unemployment: U.S. - 3.9 months, OECD Europe - 14.8 months, Czech Republic - 22.7 months
- share of workers with unemployment spell shorter than 1 month: U.S. - 36%, OECD Europe - 8 %, Czech Republic - 6.1 %
- share of workers with unemployment spell longer than 12 months: U.S. - 10%, OECD Europe - 42%, Czech Republic - 53%
- for regional variation in the length of unemployment spell in the Czech Republic see Figure 2

### 6.5.2 Variation across demographic groups

Who is the most affected group, who should be addressed?

- **men x women:** Czech Republic (2008) - total = 4.4%, men = 3.5%, women = 5.7%; regional variation - see Figure 3; largest gap within EU has Greece = diff. 7.6%
- unemployment of **youth** (15 - 24): concern of EU - 15.3% in 2007 (more than twice as much as average unemployment rate), Czech Republic - 11 % (but almost 29 % among 15-19)
  - alternating between study and employment, career planning => higher rate of job separation + higher frictional unemployment - plausible explanation in U.S. (more than 45% are unemployed for less than 1 month)
  - in the CR and OECD Europe it is more serious problem - 23% and 20% of unemployed youth is registered for more than 12 months

### 6.5.3 Transitions into and out of the labor force

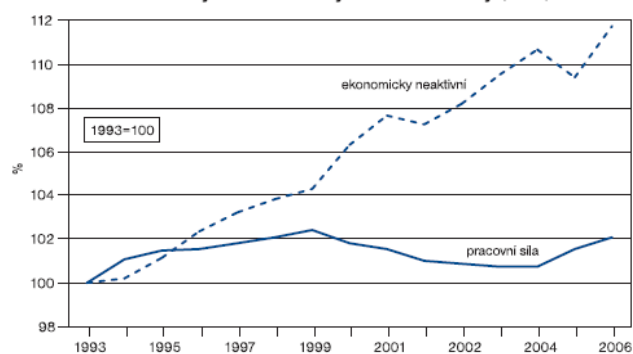
Individuals are moving into and out of the labor force:

- one third of the unemployed have only recently entered labor force (youth)
- almost half of all spells of unemployment end in the unemployed person's withdrawal from the labor market

Figure 1 describes the evolution of the labor force and economic inactivity over the period 1993 - 2006. Corrected for the growth of total population, the **rate of labor force participation** during these years has decreased by 3% (from 59% to 56%). Underlying causes:

- **demographic shift:** population is getting older - more people leave for retirement + less people enter labor force
- **discouraged workers:** individuals who after unsuccessful search have given up looking (at least officially) - OECD Europe - 0.2% of population

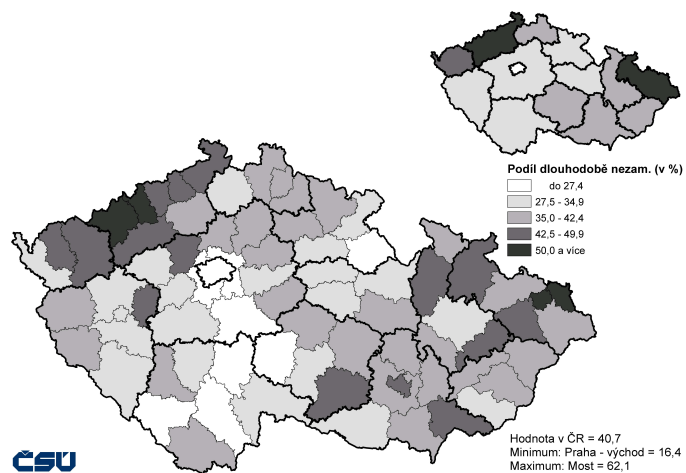
Figure 1: Growth of labor force and measure of economically inactive people, 2006.



Source: [www.czso.cz](http://www.czso.cz)

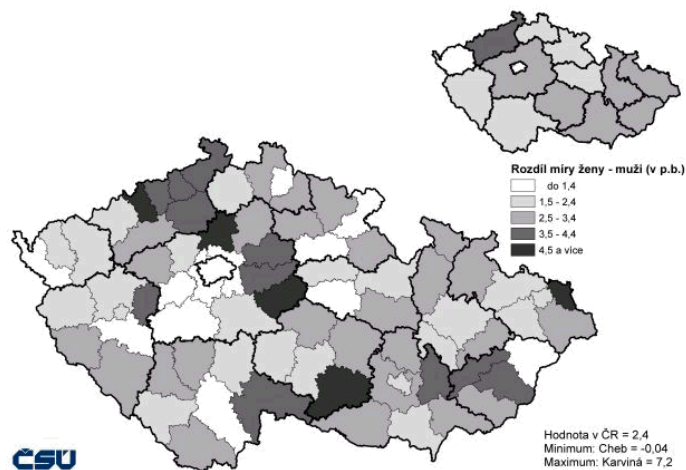
## 6.6 Figures

Figure 2: Share of long-term unemployed workers (registered at labor office longer than 12 months) on the total number of unemployed workers, 31.3.2006.



Source: [www.czso.cz](http://www.czso.cz)

Figure 3: Difference between unemployment rate of men and women, 31.3.2006.



Source: [www.czso.cz](http://www.czso.cz)