(I) Perfect and Imperfect Labor Markets: The Scope for Labor Market Institutions

Bocconi University, 2017-18

Outline

- Key definitions and main topics
- Equilibrium in competitive labor markets
- Equilibrium in imperfect labor markets
- Why institutions?
  - Market failures
  - Redistribution
  - Political economy

Key definitions

- An **institution** is a system of laws, norms or conventions resulting from a *collective choice*, and providing constraints or incentives which alter *individual* choices over labor and pay
- A **labor market** is a market where labor services (specified in a *vacant* job) are sold for a remuneration called *wage*
- Institutions create a **wedge** between the value of the marginal job for the firm and the wage received by the workers
- Examples: minimum wage, employment protection, unemployment benefits, working hours regulation, etc.

Other useful concepts

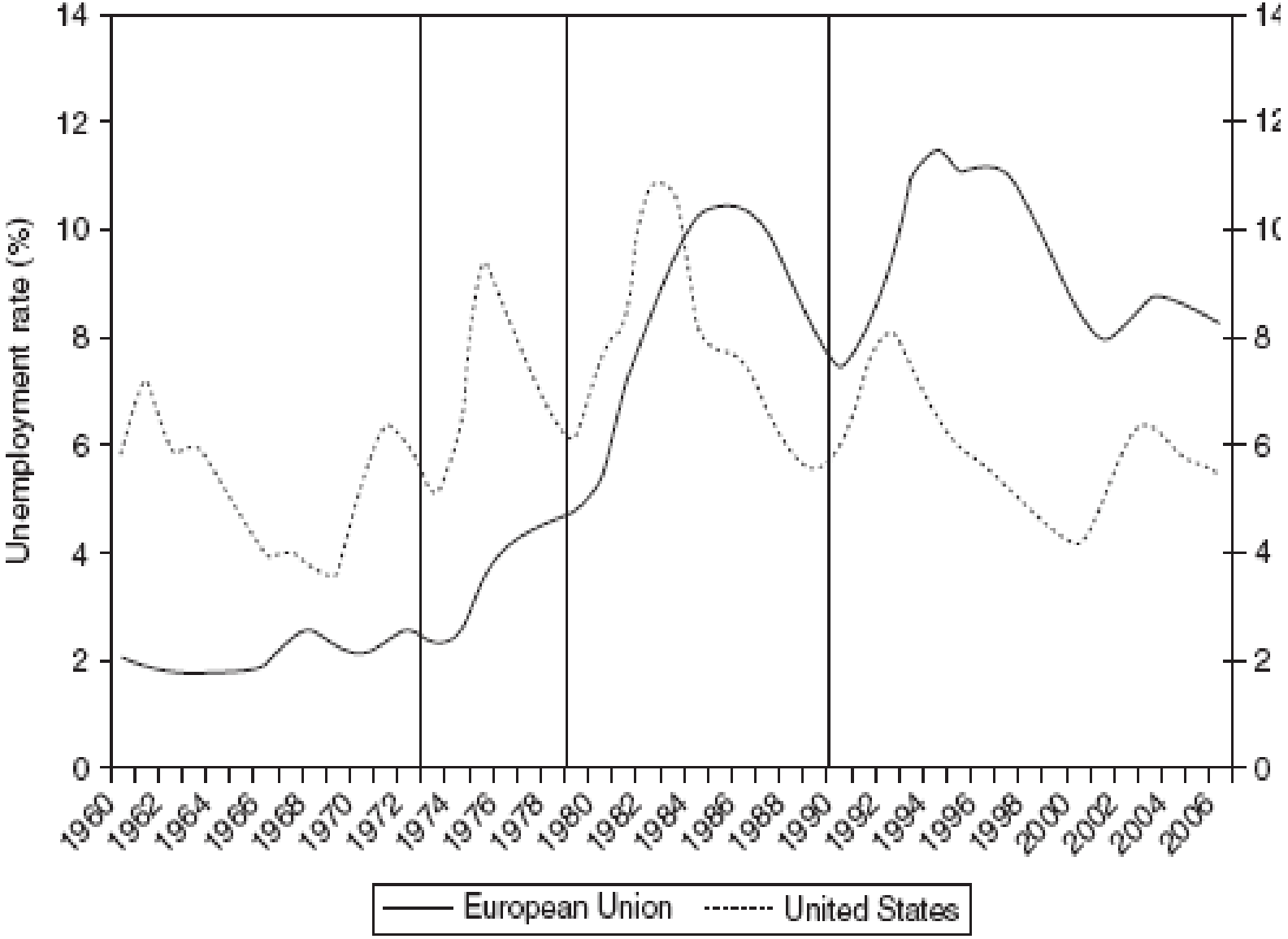
- Labor demand
- Labor supply
- Labor marginal product
- Worker's surplus ($w-w^r$)
- Firm's surplus ($y-w$)
- Total surplus ($y-w^r$)
- Wage as allocation mechanism

Two opposite views

- Pro-market: labor markets are **perfect** and every deviation from their equilibrium produces deadweight losses (politically motivated)
- Pro-government: labor markets are **imperfect** and institutions solve market failures (efficiency)
- Third way: difficult tradeoffs between market and government failures

Our analysis

- Tools of our analysis:
  - microeconomics
  - political economy
  - institutional case studies
  - econometric studies
- Aims of our analysis:
  - Explain effects of institutions in terms of efficiency, equity, and/or politics
  - Relate them to macro trends in employment and unemployment across time and countries



Source: Tito Boeri and Jan van Ours (2008), *The Economics of Imperfect Labor Markets*, Princeton University Press.

Fig 1 Unemployment Rate, E15

Labor market states

- **Employed, L** (OECD-ILO convention)

  People in working age who, during the reference week (or day), have made for at least one hour:

  - paid work (also paid in nature) *or*
  - self-employed work

- Note that *paid work* also includes:
  - People who are not temporally working but who have formally a paid work (e.g. they have a salary, maternity leave, etc.)

Labor market states (cont.)

- **Unemployed, U**

  People in working age who, during the reference week (or day), were :

  – without either paid or self-employed work,
  – willing to work *and*
  – looking for a job

- **Inactive, O**

  People in working age neither employed nor unemployed

Normalization rules

- Labor Force (LF): L+ U
- Working Age Population (N): L+U+O

- **Unemployment rate**: (U/LF)
- **Employment rate**: (L/N)
- **Activity rate** (or labor force participation rate): (LF/N)

Problems

- Underestimate unemployment because of:
  - Underemployed
  - Discouraged workers
- Overestimate unemployment because of:
  - Legal advantages of pretending to be unemployed
  - Ambiguity in job search intensity

Theoretical framework

- **Labor supply** derived from individuals' labor-leisure choice
- **Labor demand** derived from firms' production choice
- Equilibrium in **competitive markets**: intersection between demand and supply
- Equilibrium in **imperfect markets**, where firms are not price takers
- **Institutions** introduce a wedge between supply and demand

To work or not to work?

- The **reservation wage** is the lowest wage at which a jobseeker is willing to work (slope of IC at L_0 and non-labor income level)
- At that level, elasticity of individual labor supply is always positive (substitution effect dominates income effect)
- Reservation wage is increasing in non-wage income and discriminates employment from non-employment

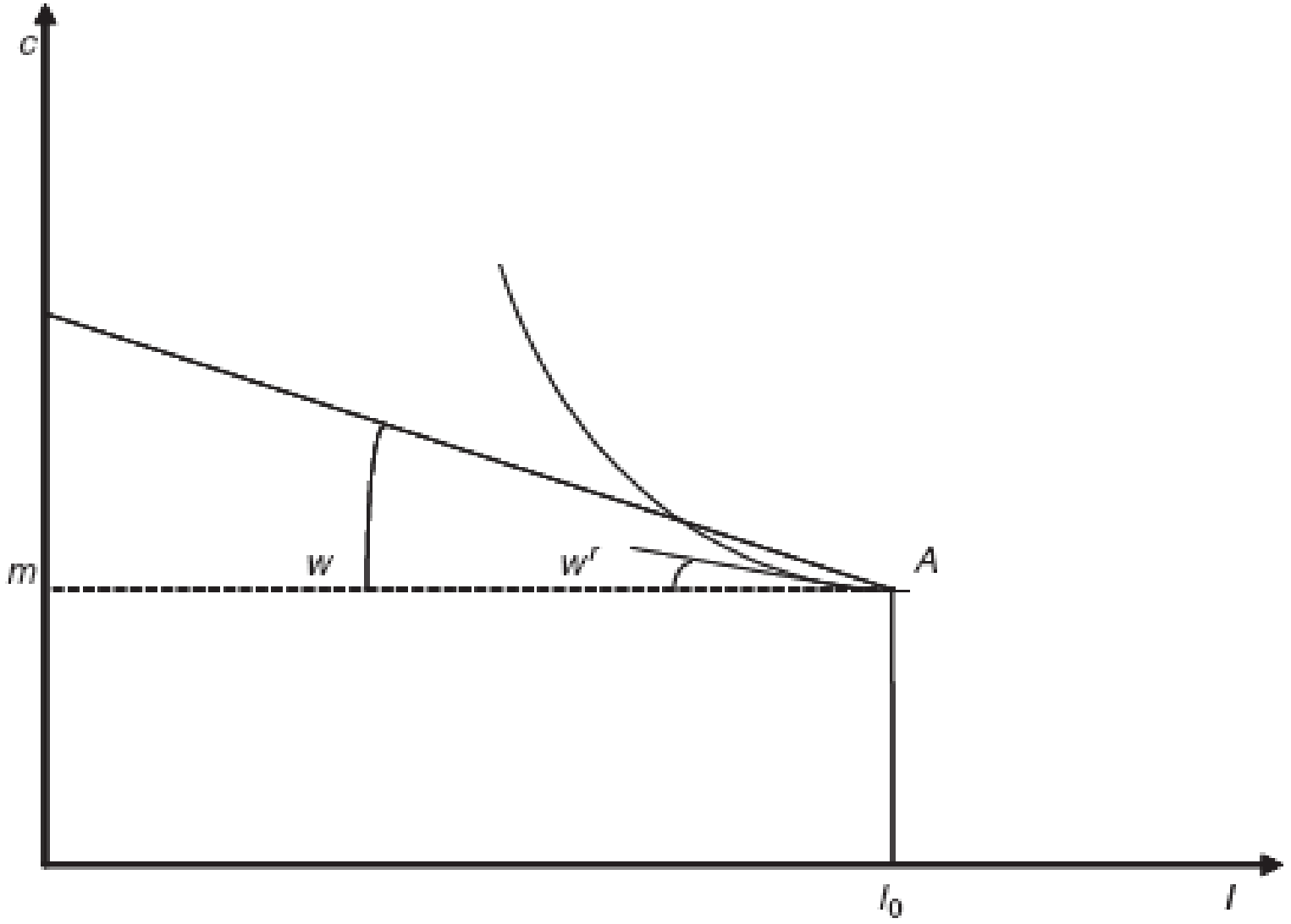


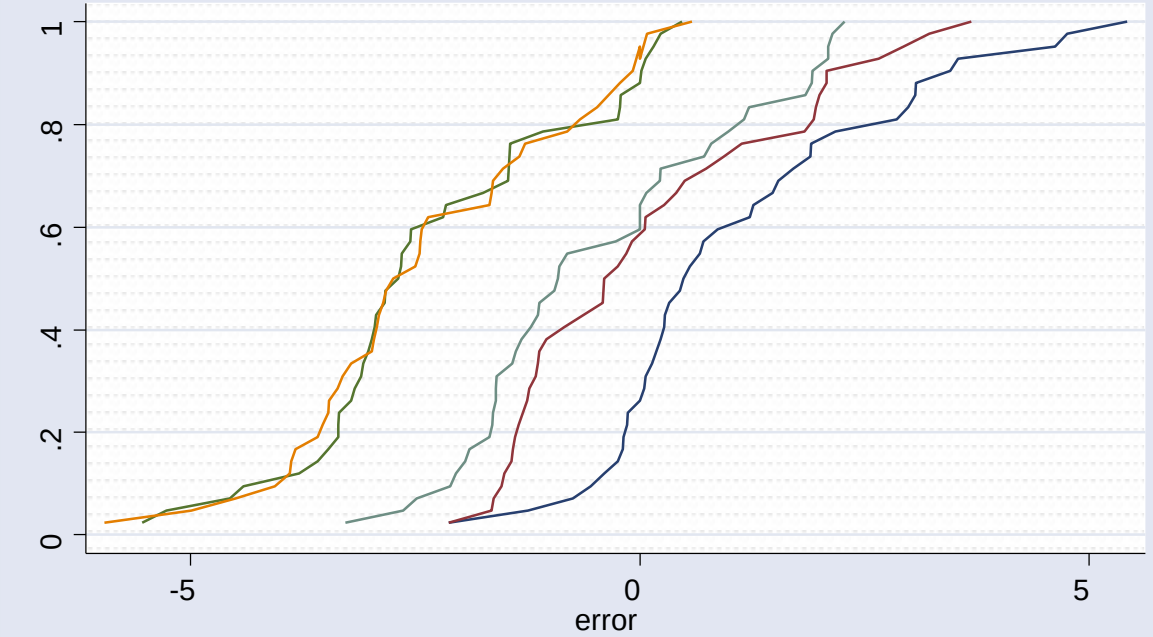
Figure 1.2 The Reservation Wage

Source: Tito Boeri and Jan van Ours (2008), *The Economics of Imperfect Labor Markets*, Princeton University Press.

From individual to aggregate labor supply

- Adding up hours worked by each individual
- *Heterogeneity* in non-wage income (or preferences), hence in reservation wages
- If individuals can only offer fixed number of hours of work, then aggregate labor supply follows distribution of w^r: $NG(w^r)$, where N is the working-age population. And it is *monotonically* increasing in wages
- Elasticity: $(\Delta H/H)/(\Delta w/w)$

Participation rate
Aggregate labor supply



Source: Tito Boeri and Jan van Ours (2008), *The Economics of Imperfect Labor Markets*, Princeton University Press.

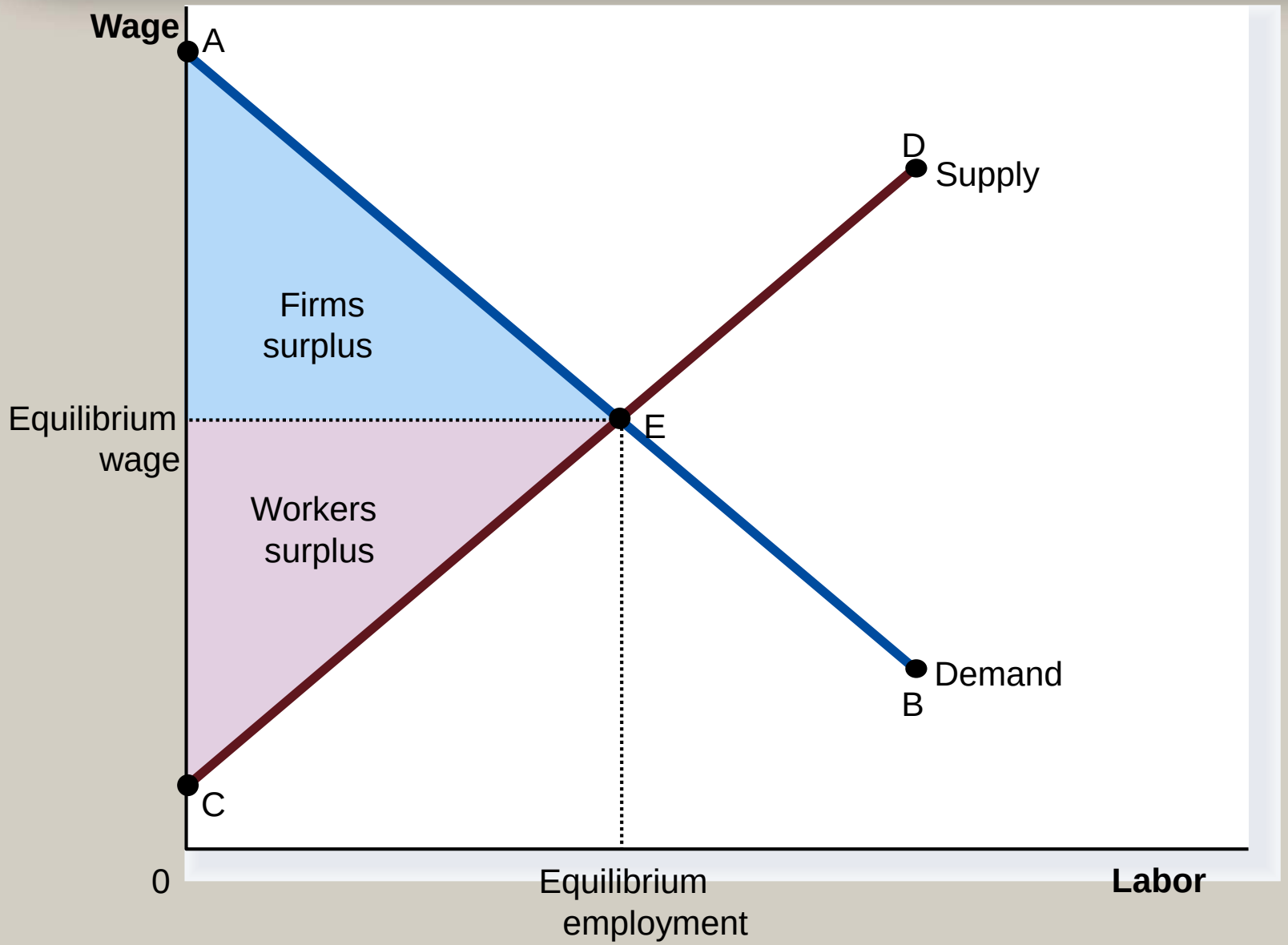
(Derived) labor demand

- Firms maximize their profits: $\pi=py-wH-rK$
- In the short-run: $y=f(K,H)$ with K fixed
- The optimal employment level equals the value of the marginal product of labor ($VMP=pf_H$) to the wage (w): $VMP=w$
- As $f_H< 0$, labor demand is decreasing in wages (i.e., downward-sloping)
- In a monopoly: $VMP=pf_H+p_Hy=w$ (labor demand to the left w.r.t. competitive firm, as $p_H<0$)

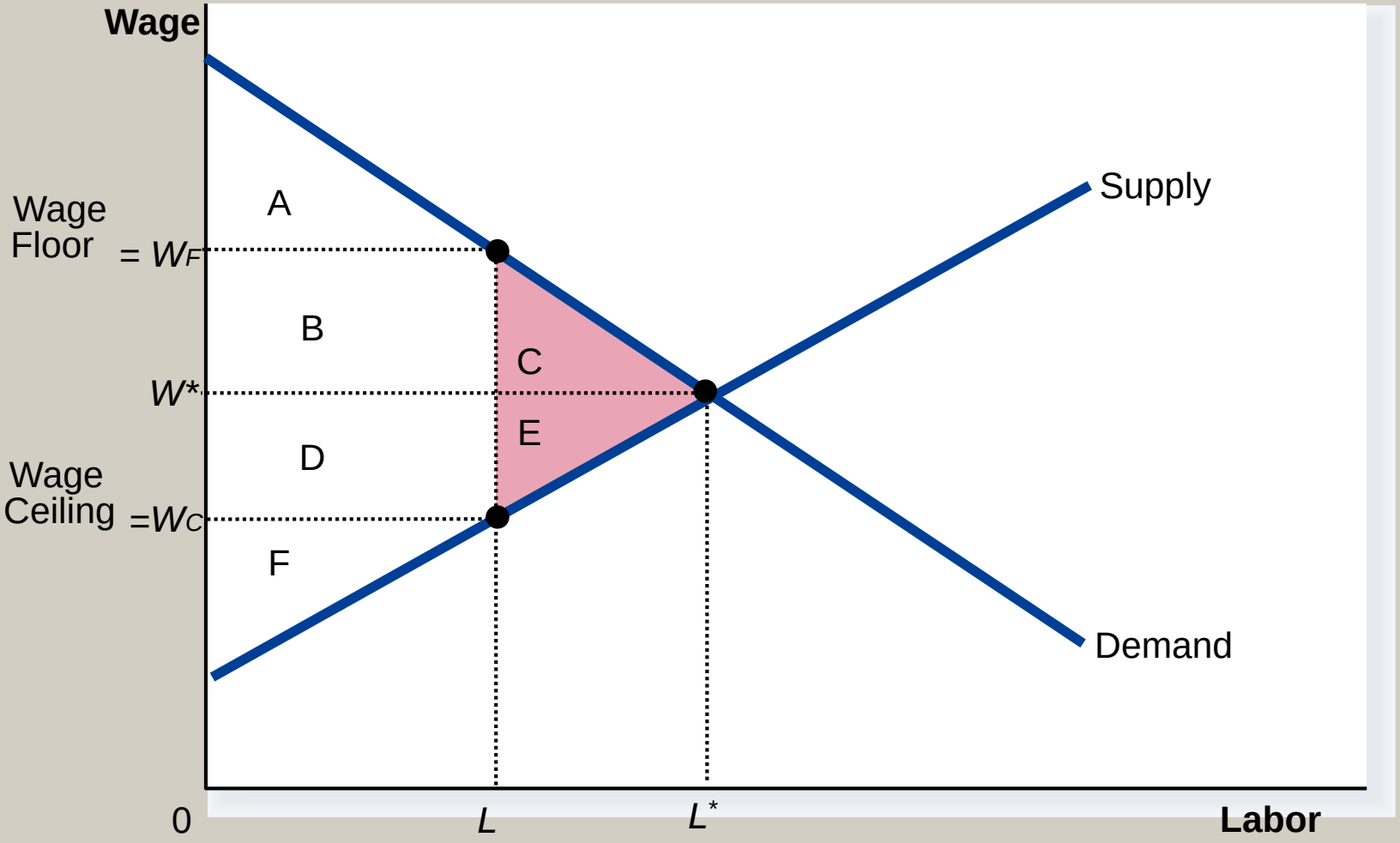
Labor demand (cont.)

- In the long-run, both inputs can be adjusted
- The optimal employment level is such that: $MRT = f_H/f_K = w/r$
- If the wage decreases, the demand for *H* increases because of both a *substitution* and a *scale* effect (while *K* decreases if substitution dominates scale)
- Again: downward-sloping labor demand

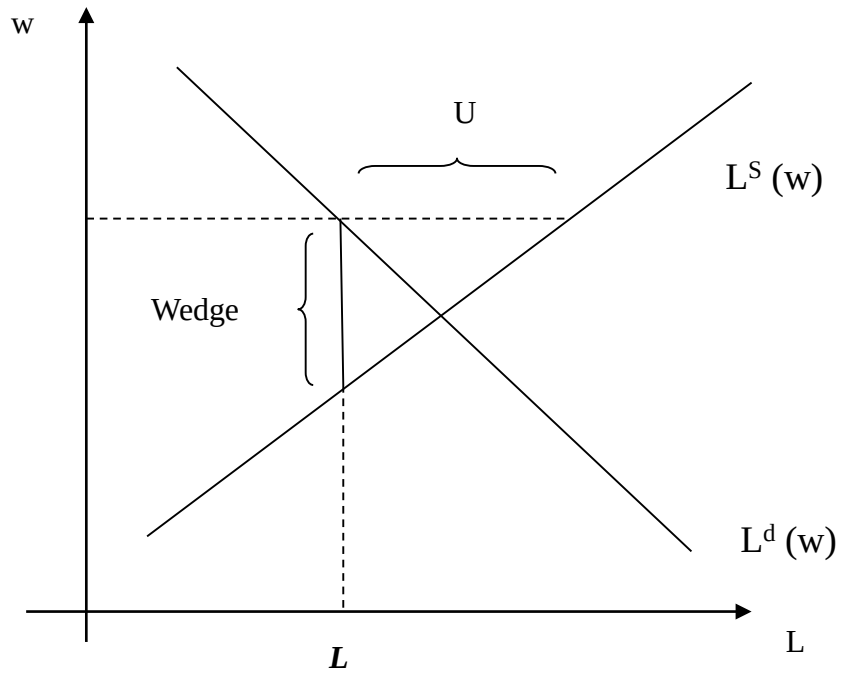
Efficiency of competitive labor markets



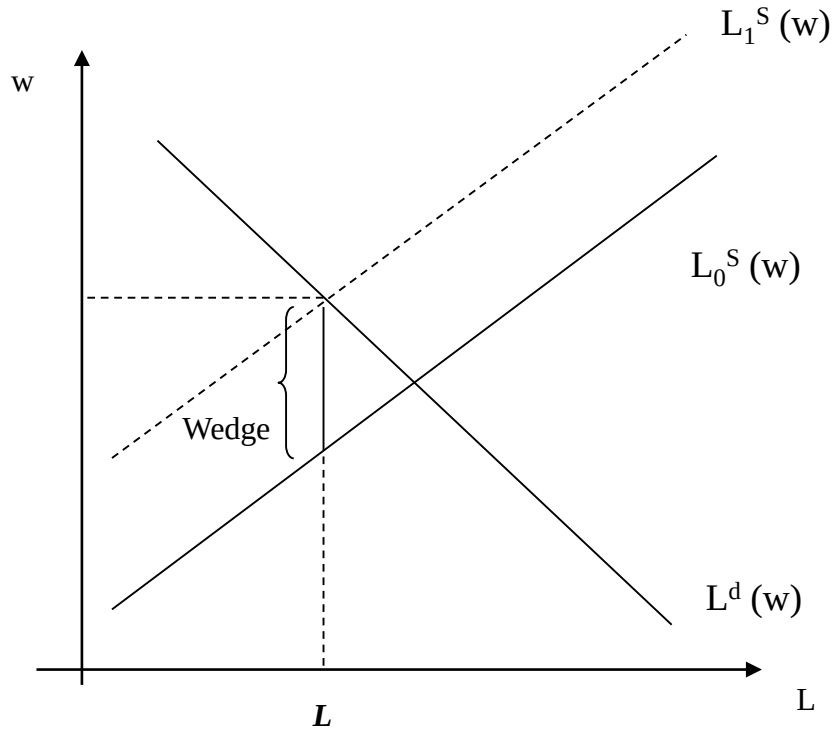
The deadweight loss of wage controls



Institutions and wedges



Price-Based Institutions and the Wedge



Quantity-Based Institutions and the Wedge

Source: Tito Boeri and Jan van Ours (2008), *The Economics of Imperfect Labor Markets*, Princeton University Press.

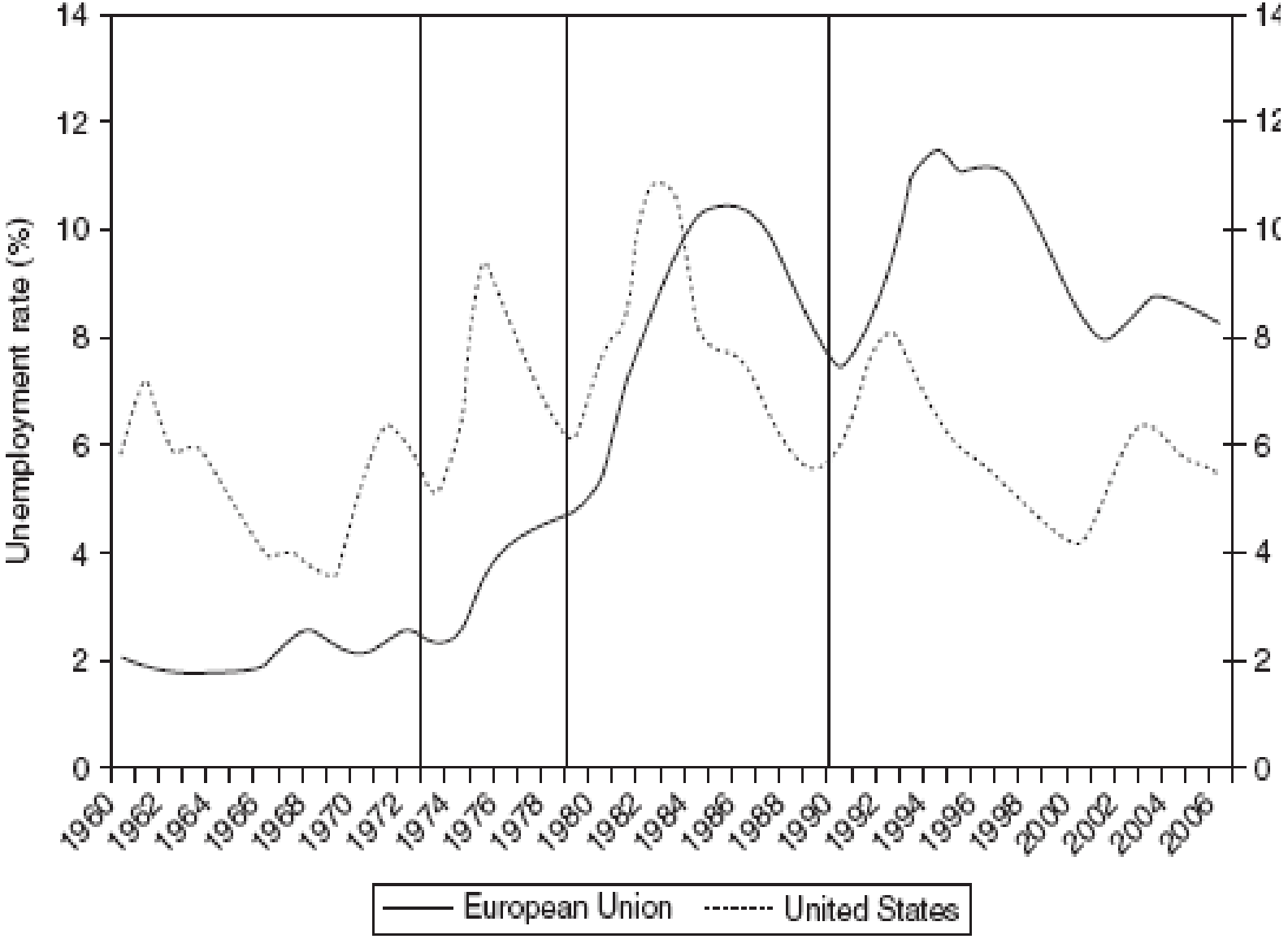
Why Institutions?

Three main arguments for their existence:

1. **Efficiency**: such a thing as a competitive labor market does not exist
2. **Equity**: as no lump-sum transfer is available, redistribution is distortionary
3. **Policy failures**: heterogeneity and powerful minority interest groups; inertia of institutions (path dependency)

Increasing bias?

- In the 1950s and 1960s US enviously looking at European institutions. In the 1980s and 1990s the other way around. How is that possible?
- Interactions between shocks and institutions (e.g., shocks create unemployment, while labor market rigidities make it long-lasting)
- Under stronger competitive pressures, labor market institutions may have higher costs in terms of foregone employment



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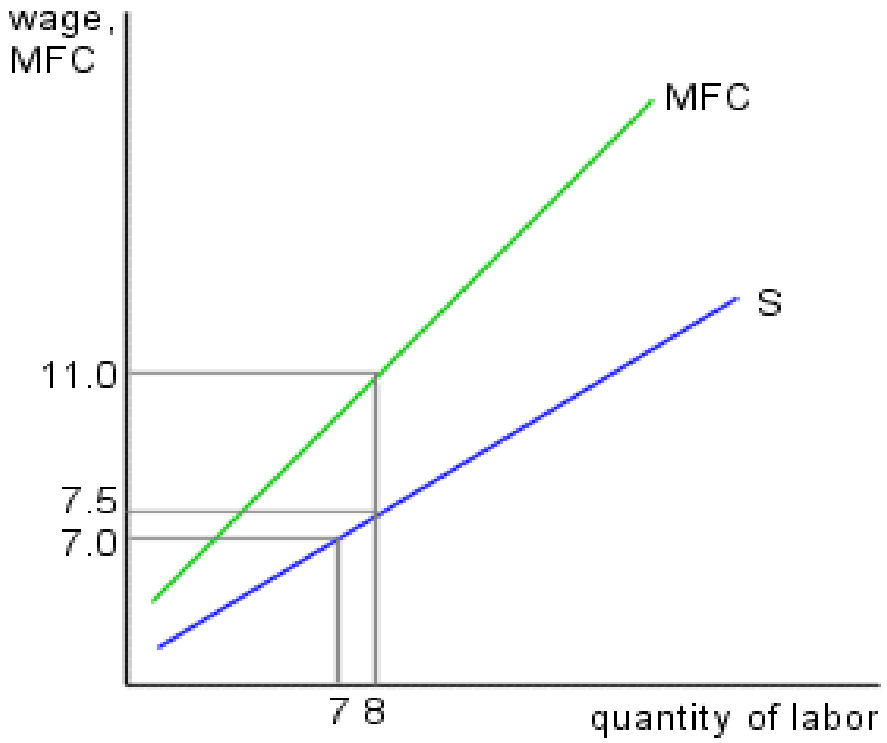
Market imperfection: Monopsony

- A *monopsony* occurs when there is a single buyer of a good
- In the case of labor, a monopsony occurs when only one firm hires workers in a given market
- A monopsonistic firm faces the entire market labor supply curve, which is upward-sloping instead of horizontal (competitive firm)
- A *perfectly discriminating* monopsonist hires the same amount of workers as in the competitive equilibrium (but it captures the total surplus)

A non-discriminating monopsonist

- For a *non-discriminating* monopsonist, marginal cost greater than the wage: $w+w_L L=w(1+1/\varepsilon_{LS})>w$



Wage and employment determination under a monopsonistic labor market