Inequality and Growth

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Easily Explicable Stylized Facts

- *Earnings Dispersion*

  From the beginning of the 1950s till the mid-1970s, the U.S. distribution of real earnings was stable; since then earnings dispersion has increased rapidly.

  The entire distribution of U.S. earnings has been pulled apart.

  Between mid-1970 and mid-1990, only the top fifth of the male U.S. working population experienced rising earnings.

- *The U.S. Skill Premium*

  By several alternative measures of skill (education premium, experience premium, non-production premium), the earnings of skilled workers have risen relative to those of unskilled workers over the past two decades.

- *Labor supply effects*

  The U.S. earnings distribution has been influenced by changes in the relative supply of skilled vs. unskilled workers.

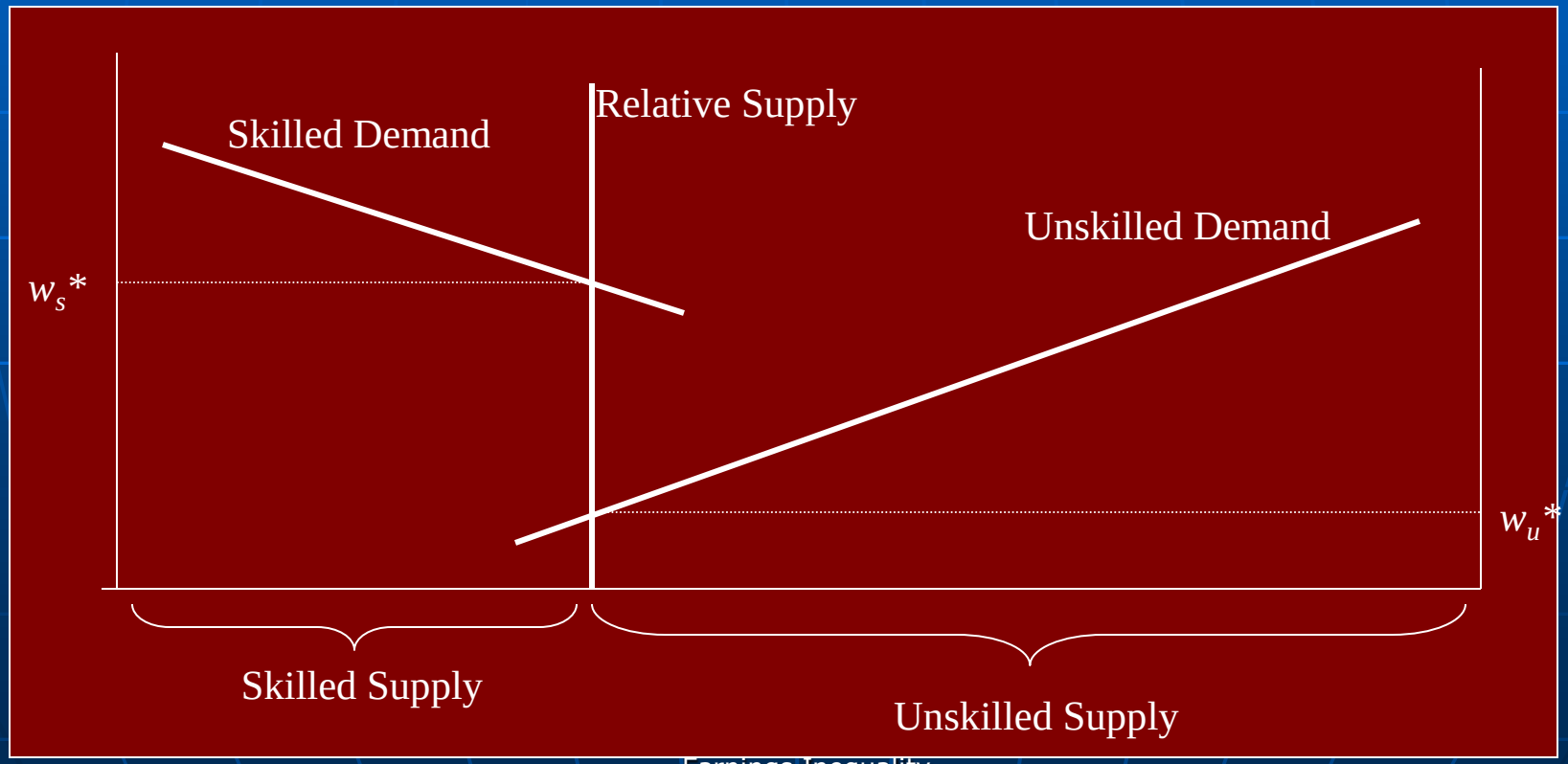
- *Unionization and centralized bargaining*

  Countries with high rates of unionization and centralized bargaining tend to have greater wage equality.

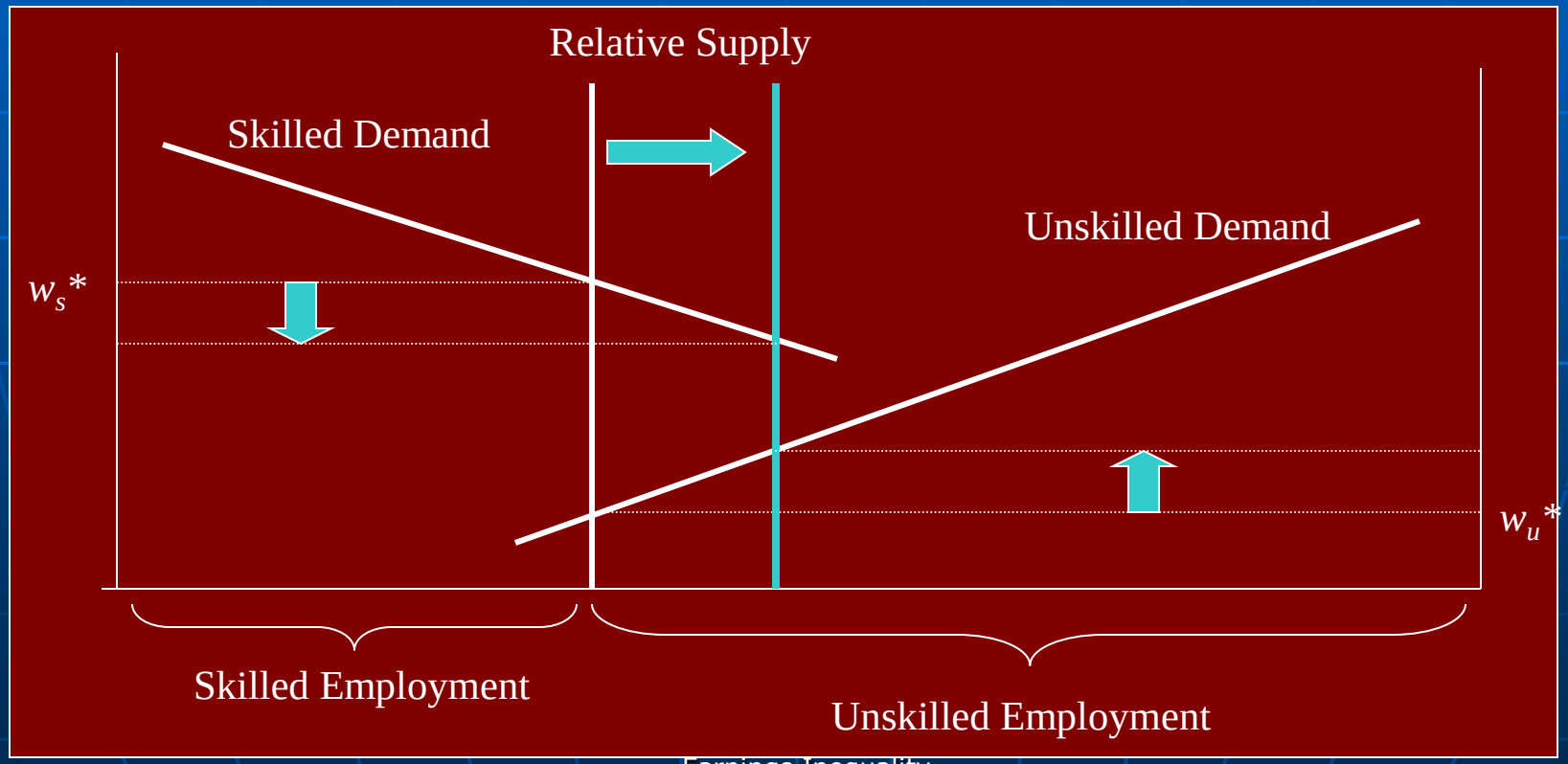
  However, there is a pronounced trend toward decentralized wage bargaining in many OECD countries.

The Conventional Explanation

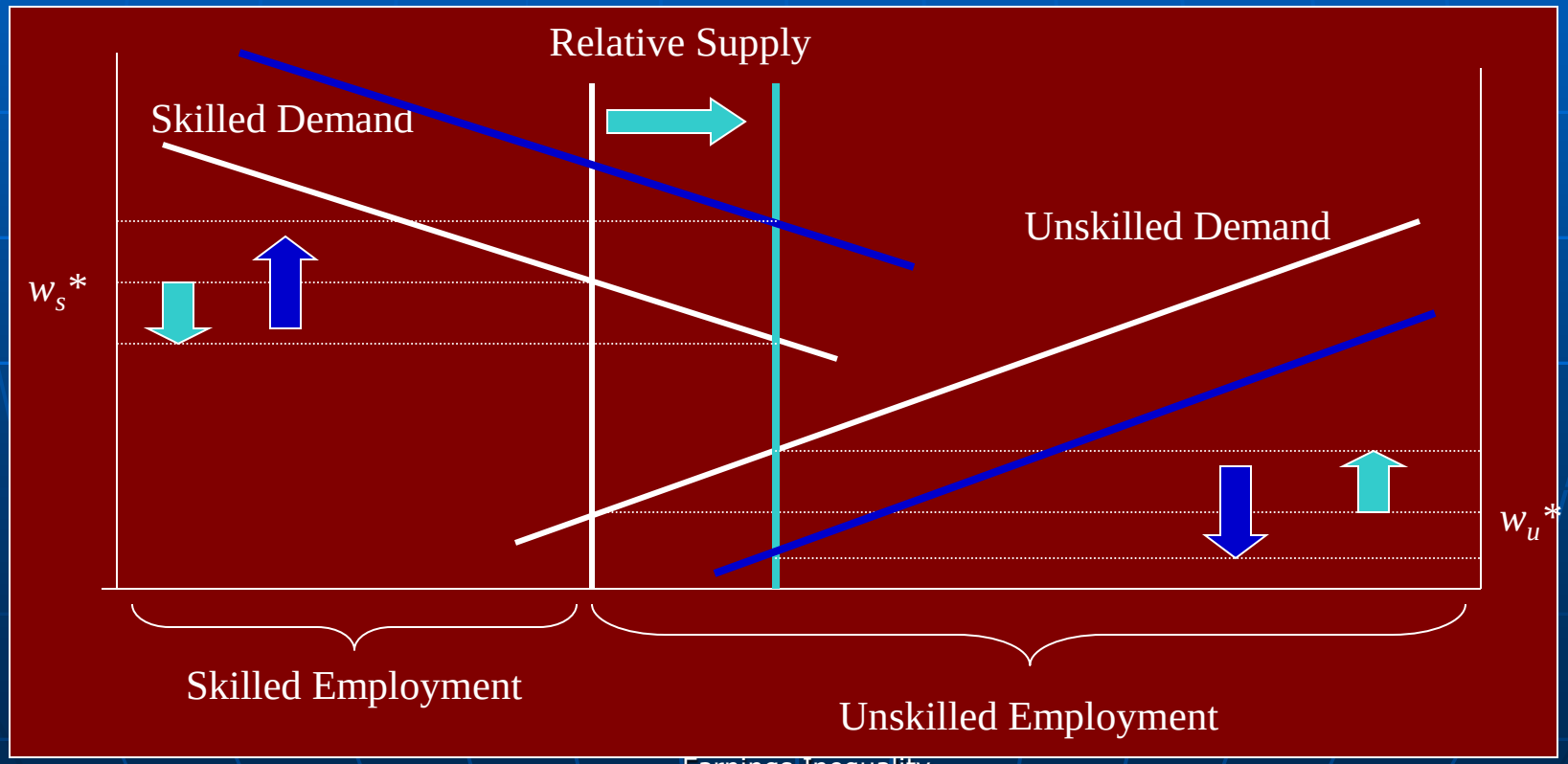
- The skilled vs unskilled labor market



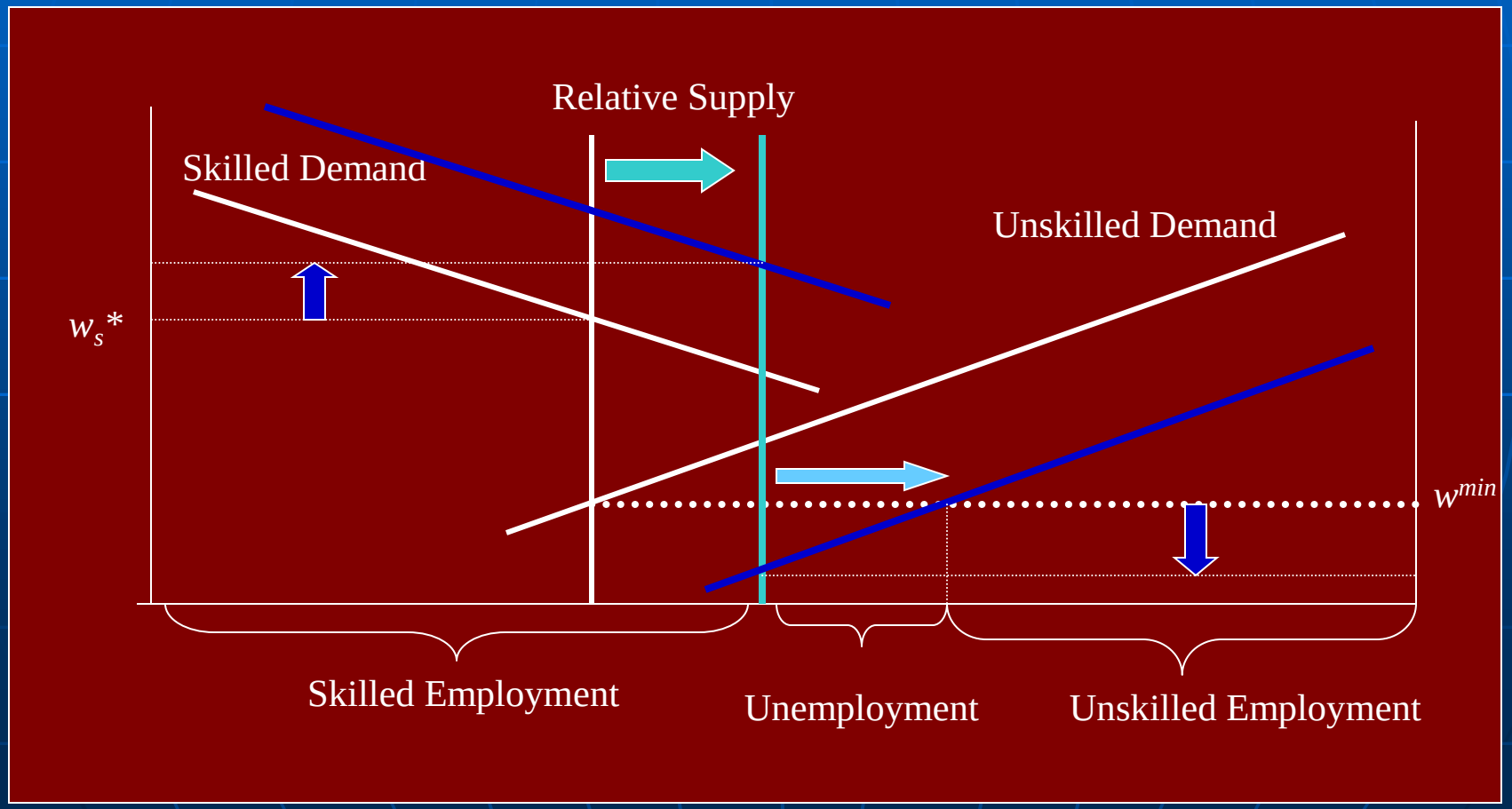
- An increase in the relative skill supply



- Inferred shifts in relative demand vs relative supply



- Wage rigidities and unemployment



Reasons for the shifts in relative demand

- Globalization
- De-industrialization
- Skill-biased technological change

Problems with the globalization hypothesis

- The ubiquitous rise in the demand for skills
- Problems of timing
- Deficient labor mobility between tradable and non-tradable sectors
- Changes in the composition of output
- The importance of domestic labor supplies

Problems with the technological change hypothesis

- The charge of tautology
- The direction of causation
- The extensiveness of extensive technological change
- The influence of technological change on high earnings
- The experience premium
- The gender earnings premium
- International evidence on earnings dispersion
- U.S. unemployment and the minimum wage

Puzzling Stylized Facts

- *Gender Premium*

  For men, the increased earnings dispersion is due more to the losses of the lowest earners than to the gains of the highest earners.

  Women, however, have seen gains through the earnings distribution, with the highest earners experiencing the fastest earnings growth.

- *Earnings-Dispersion / Unemployment Trade-off*

  Comparing OECD countries over the past 25 years, there is no clear trade-off between wage dispersion and unemployment.

- *Earnings Instability*

  Over the 1980s in the U.S., the overall increase in earnings dispersion was due as much to earnings instability as to permanent changes in earnings inequality.

- *Within-Group Inequality*

  In the U.S. at least half of the rise in earnings inequality occurred within groups, defined by observable traits such as education, experience, race, and gender.

Recent Evidence on the Polarization of Work

- For the US, the growth of wage inequality slowed in the 1990s,
  - rising in the first half of the 90s and falling in the second half.
- However, the trajectory of upper-tail inequality (90/50) diverged from lower-tail inequality (50/10).
  - Upper-tail inequality has increased steadily since 1980.
  - Lower-tail inequality rose quickly in the first half of the 1980s, and flattened out and contracted afterwards.
- Polarization of work:
  - Employment has increased in high-wage and low-wage work, at the expense of middle-wage jobs.

Explanation of Polarization

- Recent advances in IT and telecommunications
  - complement creative, high-education tasks and
  - substitute for routine, middle-education tasks.

References

- Autor, David H., L. Katz, and Kearny, "Trends in US Inequality: Revising the Revisionists," March 2007, mimeo.
- Dustmann, Christian, Johannes Ludstek, and Uta Schönberg, "Revisiting the German Wage Structure," IZA DP 2685, March 2007.
- Goos, M. and A. Manning, 2007, "Lousy and Lovely Jobs: The Rising Polarization of Work in Britain," Review of Economics and Statistics, 89, 118-133.

Three Important Recent Phenomena

(1) The geographic decomposition of value chains

- The new advances in information and telecommunications technologies permitted a vast expansion in the goods and services that became tradable.
- This, together with huge improvements in logistics, are enabling firms nowadays to decompose their various stages of production geographically into clusters of tasks, locating each task cluster in the countries and regions where it is most profitable.

This has two important implications:

- Sectors are becoming increasingly irrelevant in determining job security. It is no longer the case that jobs are relatively secure in the growing sunrise sectors and relatively insecure in the shrinking sunset sectors. The reason is that jobs in the growing sectors can be outsourced and offshored. Sectors are no longer the relevant entities for determining the geographic security of jobs.
- Skills required for the performance of routine tasks – regardless of whether they have traditionally been associated with high-skill work – are no longer a guarantee for rising wages and job security. The reason is that such tasks may be electronically transmittable and thus internationally outsourcable.

(2) The Rising Importance of Personal Relationships

Independently of comparative advantage, three types of tasks appear secure from international outsourcing:

- *Physical delivery tasks*, involving physical delivery to customers: For example, waiters are required in the restaurants where customers are eating their meals; construction workers are needed where homeowners wish to place their houses. The jobs of gardeners, taxi drivers, and retail sales personnel are also secure.
- *Nonsystematizable tasks*, which cannot be defined in terms of routine procedures: People engaged in creative and leadership tasks – for example, managers or researchers working on common projects – often require physical contact to be effective.
- *Personal relationship tasks*: The work of psychotherapists, nurses, school teachers, and social workers crucially involves building personal relationships and these also require physical presence with the recipients of these services.

These three sets of tasks cut across the divide between the sunrise and sunset sectors, and between skilled and unskilled workers. Increasingly, we cannot expect the demand for skilled labor to rise relative to the demand for unskilled labor, regardless of the nature of these skills.

(3) The increasing flexibility, heterogeneity and versatility of work

- The command-and-control style of management - where authority flows from the senior executives down through middle management to the workers in the functional departments - is being replaced by flatter organizational structures, in which customer-oriented teams report to the central management with few, if any, intermediaries. These teams frequently require multi-tasking, job rotation, and sharing of multiple responsibilities.
- Furthermore, occupational barriers are breaking down in the new types of business organizations, as employees are given multiple responsibilities. In this environment, traditional occupational distinctions begin to lose their significance and what we mean by "skilled" versus "unskilled" workers becomes radically changed.

- By implication, skilled work is becoming more heterogeneous.
  - To succeed in the skilled labour market nowadays, people need more than competence in their specialized occupation.
  - They also need to combine their occupational skills with social competence and knowledge of other jobs (so that they can deal with customers and communicate effectively with other members of their team), as well as the ability to adapt their skills to changing customer needs.
  - As this process proceeds, skilled workers are increasingly choosing portfolios of skills that are appropriate to their individual abilities and their customers' preferences.
  - Since these abilities and preferences are heterogeneous, the nature of work is becoming increasingly heterogeneous as well.

The Reorganisation of Work

- Historical background
- Driving forces underlying the Organisational Revolution
- Broad-based empirical evidence
- Case studies
- Features of the Organisational Revolution

- Implications
  - for inequality
  - for labor market institutions
  - for labor market policies

Historical background

- The division of labor
  - in production
  - in management
- The Industrial Revolution versus the Organisational Revolution

Driving forces

- Changes in physical capital
- Changes in information technologies
- Changes in human capital
- Changes in preferences of employees and customers

Broad-based empirical evidence

- Decentralisation of decision making
- Multi-tasking
- Complementarities between organisational change and skills

Case studies

- Kodak
- IBM Credit
- Bell Atlantic
- Hallmark
- Volvo's laudry
- McKesson

Features of the Organisational Revolution

- Organisation of authority within firms
- Organisation of design, production, and marketing
- Organisation of purchaser-provider relationships
- Breakdown of organisational barriers

Analytics

Definitions:

- n_j = number of type-j workers
- τ_{ij} = fraction of worker j's available time devoted to task i, where $\tau_{1j} + \tau_{2j} = 1$
- e_{ij} = productivity of the type-j worker at task i (per unit of time)
- Then $e_{i1}\tau_{i1}n_1 + e_{i2}\tau_{i2}n_2$ is the amount of labor services devoted to task i

Production Functions:

- The *production function in task space:*

$$q = f\left[\left(e_{11}\tau_{11}n_1 + e_{12}\left(1-\tau_{22}\right)n_2\right),\left(e_{21}\left(1-\tau_{11}\right)n_1 + e_{22}\tau_{22}n_2\right)\right]$$

- *The production function in people space:*

$$q = g\left[\left(e_{11}\tau_{11} + e_{21}\left(1-\tau_{11}\right)\right)n_1,\left(e_{12}\left(1-\tau_{22}\right) + e_{22}\tau_{22}\right)n_2\right]$$

- The productivity of worker *j* at task *i* depends on his exposure to the task:

$$e_{ij} = e_{ij}(\tau_{ij}).$$

- ***The Organizational Choice:***

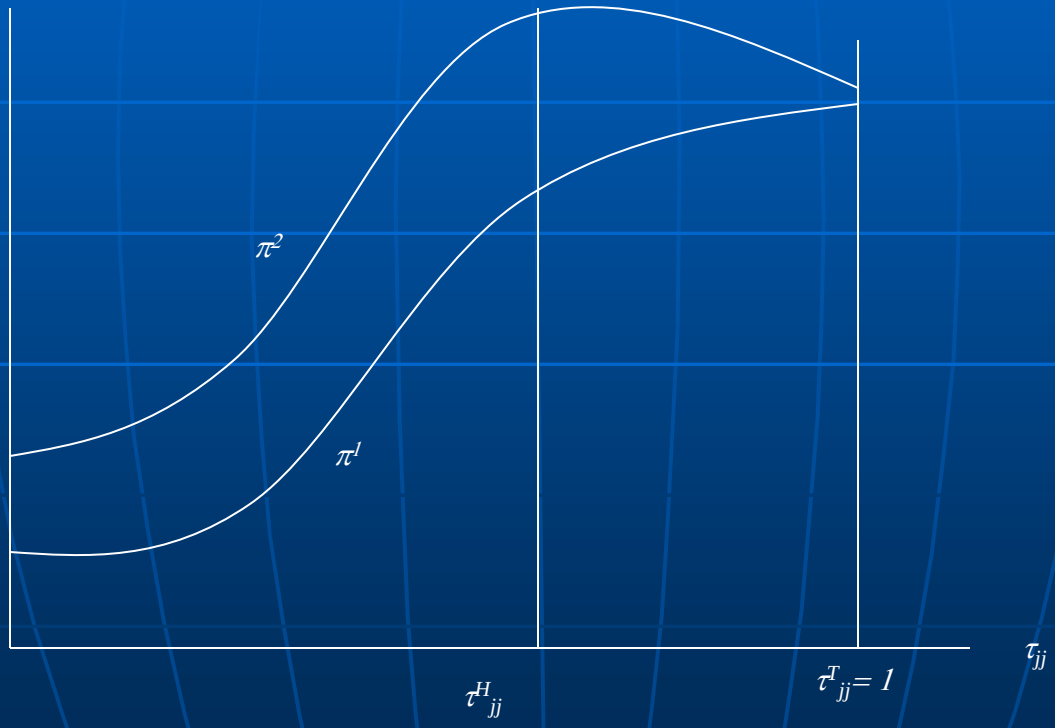
  The firm's labor cost be

$$C = w_1 n_1 + w_2 n_2$$

- The firm's problem:
  - Maximize $\pi = q - c$, with respect to n_j and τ_{jj}, subject to the predetermined wages w_j and

$$\tau_{jj} + \tau_{ij} = 1, \quad i \neq j$$

- **The Optimal Organization of Work**



Implications for inequality

- Redefinition of skills
- Rising earnings dispersion
- Rising education wage premium
- The gender premium
- Earnings instability
- Within-group inequality

Implications for labor market institutions

- Centralised bargaining
- Unemployment benefit systems
- Job security legislation

Implications for labor market policies

- Market failures
  - Efficiency wages
  - Acquisition of skills
- Education and training
- Policy proposals