

# *Master in Economics*

## Labour economics - Lecture 1

Jan 2026



# The course

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- Labour economics:
  - The branch of economics that studies the mechanisms and outcomes of the market for labour
  - A market with some specific characteristics
- Our classes:
  - Combine theoretical analysis of the labour market with empirical studies - at the graduate level, labour economics requires training in microeconomics and econometrics - we will cover some econometric methods used in the study of the labour market

# The course

## Program:

1. Introduction [E1 (Chapter 1 in reference E)]
2. Overview of the labour market [E2]
3. The demand for labour and labour elasticities [E3, E4]
4. Supply of labour: The decision to work [E6]
5. Econometric methodology: Causal inference and estimation methods
6. Compensating wage differentials [E8]
7. Investments in human capital [E9]
8. Discrimination in the labour market [E13]
9. Unemployment [E14]
10. Inequality in earnings [E15]

# The course

## **Assessment:**

- The final grade is awarded, on a scale of 0 to 20, based on a written test

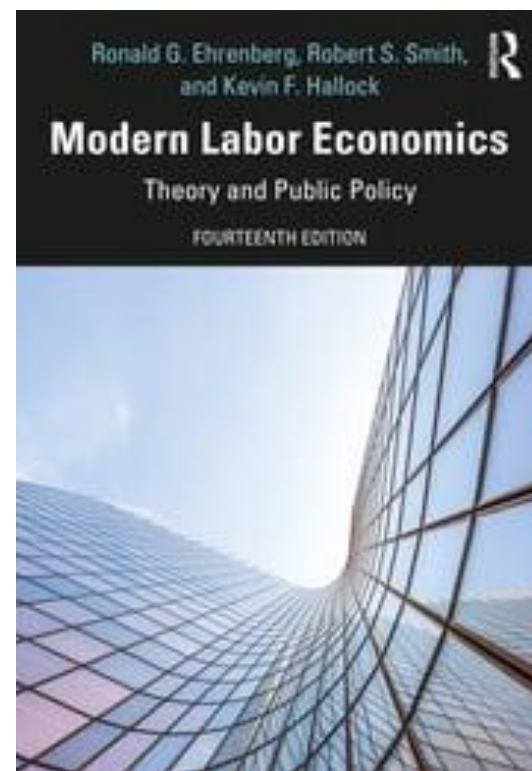
# The course

- **Bibliography:**

[E] Ehrenberg, Ronald & Robert Smith, *Modern Labor Economics: Theory and Public Policy*, 14<sup>th</sup> edition.

[Z] Cahuc, Pierre & André Zylberberg, *Labor Economics*, MIT Press, Cambridge.

[C] Own notes



# *Master in Economics*

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# Introduction

## The Labour Market

### Labour Economics: Some Basic Concepts

- Positive Economics
  - Models and Predictions of Positive Economics
- Normative Economics
  - Normative Economics and Government Policy
  - Efficiency versus Equity

# Labour economics

Application of economic analysis to the behaviour of employers and employees and the relationship between them – the ***employment relationship***

The ***employment relationship***

- one of the most fundamental relationships in our lives
- attracts a good deal of legislative attention

Knowing the fundamentals of labour economics is **essential to an understanding of social problems and programs**



# The labour market

## Labour unique in several ways

- **Labour services can only be rented** - workers cannot be bought and sold
- **Labour services cannot be separated from workers** - the conditions (nonpecuniary factors such as work environment, risk of injury, personalities of managers, perceptions of fair treatment, and flexibility of work hours) under which such services are rented are often as important as the price
- **Many and diverse institutions and pieces of legislation related to this market**

# The labour market

The circumstances under which employers and employees rent labour services constitute a market - **the labour market**

**The labour market - the market in which the employer-employee relationship is established – the market that ensures the allocation of workers to jobs:**

- **Institutions** such as want ads and employment agencies **facilitate contact between buyers and sellers** of labour services
- **Information** about price and quality is exchanged in employment applications and interviews
- **Contracts** between both parties spell out different aspects such as compensation for time, conditions of work, job security, and duration of the job
- Contracts typically **compensate employees for time and not for what they produce** – raises the issue of motivation of workers

# Labour Economics: Some Basic Concepts

Labour economics - the study of **how the labour market works and its outcomes**

- Primarily concerned with the **behaviour of employers and employees** in response to the general incentives of wages, prices, profits and nonpecuniary aspects of the employment relationship
- **Incentives** - to motivate and to limit individual choice

# Labour Economics: Some Basic Concepts

Labour economics conducted on **two levels**:

- Positive economics – “what is” – **explain agents’ behaviour**
- Normative economics – “what should be” – **judgement**

# Labour Economics: Some Basic Concepts

## Positive Economics

- A **theory of behaviour** in which people are typically assumed to respond favourably to benefits and negatively to costs
- Analysis based on two basic assumptions: **scarcity and rationality**

# Labour Economics: Some Basic Concepts

## Scarcity

- Not enough resources to meet all wants
- There are costs of any decision or action
- Choices must be made

# Labour Economics: Some Basic Concepts

## Rationality

- People are rational – **they have an objective**, which they pursue in a reasonably consistent fashion
  - Persons: the objective is utility maximization
  - Firms: the objective is profit maximization
- Implies
  - a **consistency of response** to general economic incentives
  - an **adaptability of behaviour** when those incentives change

# Labour Economics: Some Basic Concepts

## Models and Predictions of Positive Economics

- **Behavioural predictions result more or less directly from the two fundamental assumptions of scarcity and rationality**
  - Workers continually make choices - look for other jobs, accept overtime, move to another area, acquire more education
  - Employers also make choices - level of output, input mix in production, working conditions
- **Skepticism about the assumptions used in economics - the theory underlying positive economics should be judged on the basis of its predictions, not its assumptions**



# Labour Economics: Some Basic Concepts

## The Models and Predictions of Positive Economics (cont)

- What is a model:
  - Any attempt to **explain a complex set of behaviours and outcomes using a few fundamental influences**
  - Created to strip away random and idiosyncratic factors – **average trends**

# Labour Economics: Some Basic Concepts

## The Models and Predictions of Positive Economics (cont)

- **Economic Models** - example of how predictions are derived from scarcity and rationality:
  - **Employees:** being subject to resource scarcity, **workers will prefer high paying jobs to low-paying ones if all other job characteristics are the same in each job** – a highlight of the utility maximizing behaviour of workers
  - **Employers:** firms need to make profit to survive, and if they have high turnover, their costs will be higher than otherwise because of the need to hire and train replacements – firms **may prefer to pay higher wages than to have higher turnover** - a highlight of the profit maximizing behaviour of firms

# Labour Economics: Some Basic Concepts

Important things about the assertions of utility maximization and profit maximization:

- Employees and employers are both mindful of their scarce resources and are therefore on the **lookout for chances to improve their wellbeing**
- There is a **negative relationship between wages and voluntary turnover** holding other things equal – this relationship is supported by statistical studies or evidence
- Assumptions of the theory concern individual behaviour of employers and employees, but the **predictions are about an aggregate relationship between wages and turnover**, which can be tested using aggregate data

# Labour Economics: Some Basic Concepts

## Normative Economics:

- **Study of what “should be”**
- Theories of social optimality based in part on the underlying philosophical principle of “mutual benefits”
- Two kinds of economic transactions:
  - Transactions where all parties gain – are entered voluntarily
    - An illustrative example: assume that A is willing to make blueprints for \$20 per hour / B is willing to pay someone \$22 per hour to do the job. This labour market transaction is beneficial to both parties if the hourly wage agreed upon is between \$20 and \$22
  - Transactions in which one or more parties lose
    - Often involve the redistribution of income, from which some gain at the expense of others
    - Are not entered into voluntarily unless motivated by charity

# Labour Economics: Some Basic Concepts

## Normative Economics:

- **Markets facilitate *voluntary* transactions** – allow to achieve what we will define as Pareto efficiency
- **Governments make certain transactions** that are not entered voluntarily *mandatory* based on normative judgements of **ought to be** – basis for public programs/policies

# Labour Economics: Some Basic Concepts

*Pareto-improving* policies or transactions – policies or transactions that make at least one person better off without making anyone worse off

- Promote Pareto efficiency – unambiguously enhance social welfare
- Policies can be unanimously supported if:
  - **All parties** who are affected by the transaction **gain**
  - **Some parties gain** and **no one loses (Pareto policies)**
  - **Some parties gain and some lose** from the transaction, but **gainers fully compensate the losers**

# Labour Economics: Some Basic Concepts

## Market Failure:

- **Ignorance** – People may be ignorant of some important facts and are thus led to make decisions that are not in their self-interest - for example, a smoker who takes a job at an asbestos plant may not know that inhaling asbestos dust and smoking substantially increase the risk of disease
- **Transactions Barriers** – There may be some barriers to the completion of mutually beneficial transactions
  - Laws prohibit certain transactions
  - The expenses/costs of completing the transactions

# Labour Economics: Some Basic Concepts

## Market Failure (cont)

- **Externalities** – Market failure that arises when a buyer and a seller agree to a transaction that imposes costs (negative externality/spillover) or benefits (positive externality/spillover) on people who were not party to their decision / or they are not fully aware of those costs/benefits
  - If some transaction costs and benefits are not known or fall on people who were not able to influence the decision, the transaction even if beneficial to the parties may not have net benefits for the society
  - Example of externalities in the labour market:
    - Child labour
    - Investment on safety - if workers have no mechanism to transfer their costs of being injured to their employers, who decide on workplace safety, the decision on investment of safety may not be efficient



# Labour Economics: Some Basic Concepts

## Market Failure (cont):

- ***“Free rider problem”***– Market failure that arises when a person is willing to consume a good or service, but he/she is not willing to pay (and can avoid to pay) the cost of its provision/production. The solution is the provision of **public goods**
  - Can lead to under-investment in the provision of such good or service unless the government can compel payments through the tax system
- **Price Distortions** – Market failure that arises when prices do not reflect the true preferences of the parties to the transaction
  - Barriers to transactions could come from taxes, subsidies, or other forces (price controls) that create “incorrect” prices

# Labor Economics: Some Basic Concepts

## Normative Economics and Government Policy

- **Governmental intervention** frequently arises to solve problems that **prevent the completion of socially beneficial transactions**
  - **Provide information** / repeal the law
  - **Compel or actively promote transactions** that are different from the ones that would be made by “the market”
    - **Capital Market Imperfections** – If workers find it difficult to obtain loans – to be used for various purposes e.g. training – the government might intervene by making such loans available even if it faced the same risk of default
    - **Externalities** – example of child-labour – legal minimum age, provide school for free - Government can also use policies to intervene in the decision on the mandatory school-leaving age by looking at the lifetime benefits of various schooling levels and comparing them to both the direct costs of education and the opportunity costs of lost production

# Labor Economics: Some Basic Concepts

## Efficiency vs Equity

- **Should equity or efficiency be the prime consideration in setting a policy?**
  - Situation 1: Several solutions are Pareto efficient, and the issue is to choose the most equitable – sometimes requires definition of fairness
  - Situation 2: Sometimes to achieve more equity one has to move away from Pareto efficiency (e.g. Minimum wage laws)

# Overview of the Labour Market

## Labour Market: Definitions, Facts, and Trends

- The Labour Force and Unemployment
- Industries and Occupation: Adapting to Change
- The Earnings of Labour

## How the Labour Market Works

- The Demand for Labour
- The Supply of Labour
- The Determination of the Wage

## Applications of the Theory

- Who Is Underpaid and Who Is Overpaid?
- Unemployment and Responses to Technological Change Across Countries

# The Labour Market: Definitions, Facts, and Trends

## Labour market

- The market that **allocates workers to jobs** and coordinates employment decisions
- Buyers are employers, sellers are workers
- Different markets:
  - national labour market / regional / local – according to the spatial dimension where sellers and buyers' search
  - markets in the base of industry, occupation or type of transaction
  - external or internal to the firm

# The Labour Market: Definitions, Facts, and Trends

## The Labour Force and Unemployment

- The **Adult Working Population (AWP)** - those who are over 16 years of age and are in the Labour Force (LF) and Not in Labour Force (NLF)

$$AWP = LF + NLF$$

- The **Labour Force** - those (>16 years of age) who are employed (E) and those who are unemployed (U) but are actively seeking work or waiting to be recalled from layoff

$$LF = E + U$$

- **Not in Labour Force (NLF)** - People who are not employed and are neither looking for work or waiting to be recalled from layoff

# The Labour Market: Definitions, Facts, and Trends

## The labour market is very dynamic

- Flows between LF and NLF:
  - retiring or by dropping out
  - entering or re-entering
- Flows between E and U:
  - quitting voluntarily or by being laid off
  - newly hired or by being recalled

# The Labour Market: Definitions, Facts, and Trends

Figure 1. Quarterly labour market flows  
(thousand persons)

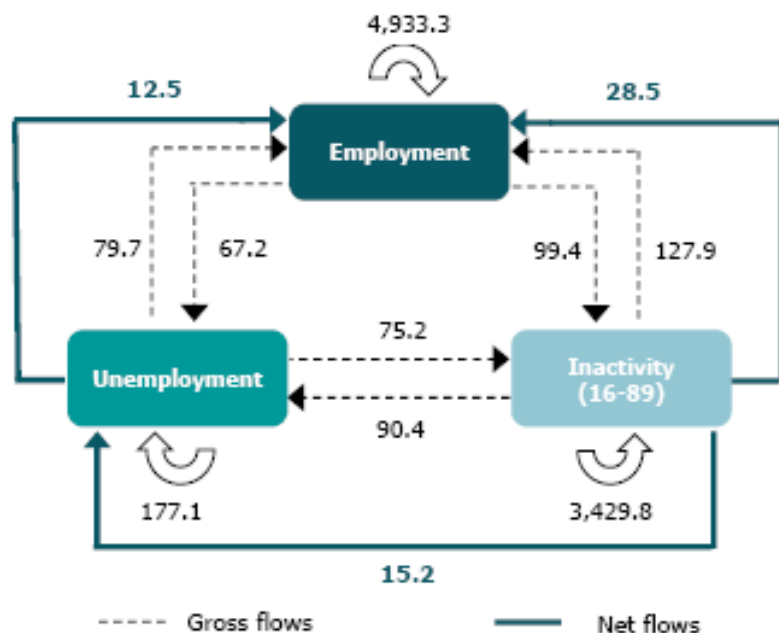
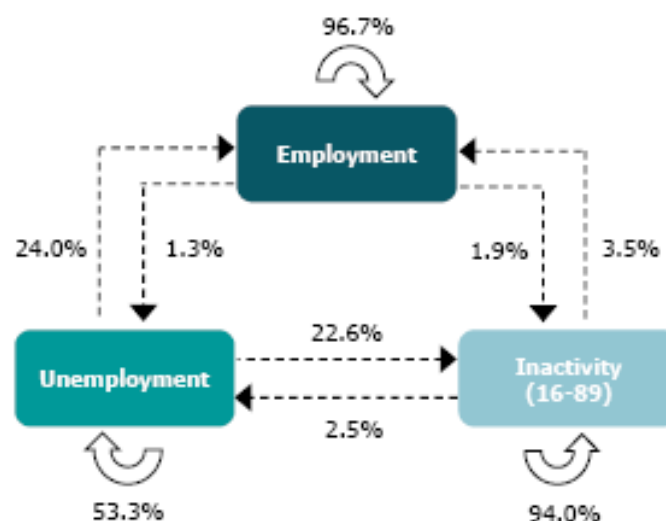


Figure 2. Quarterly labour market flows  
(in % of initial status)



Source: Statistics Portugal, Labour Force Survey - 3<sup>rd</sup> quarter of 2024.

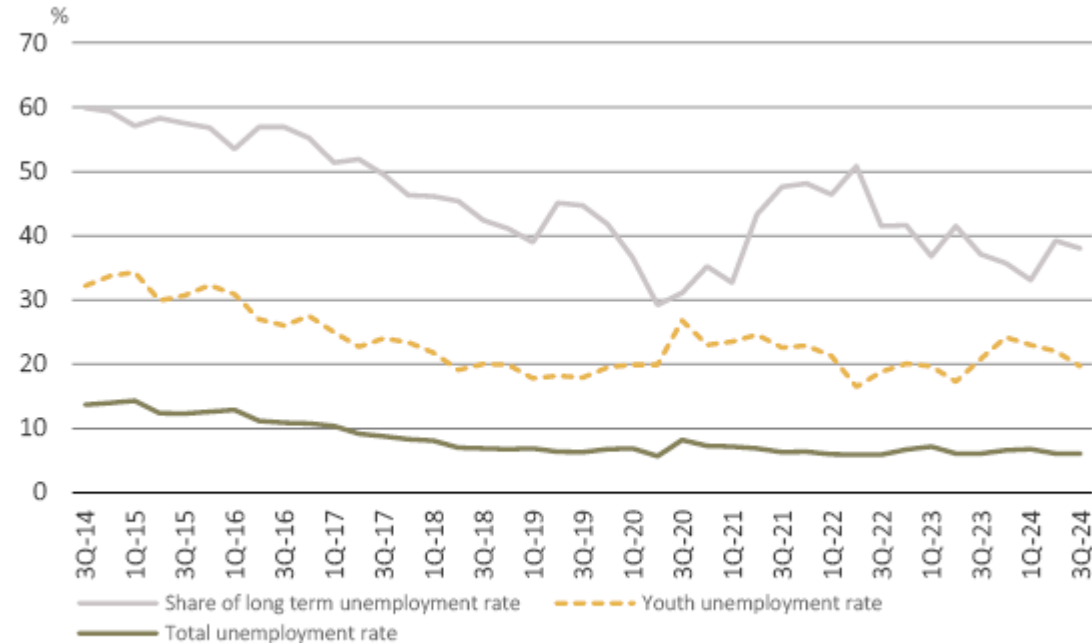


# The Labour Market: Definitions, Facts, and Trends

## Unemployment rate U/LF:

- **Heterogeneous:** year, region, gender, age, and race
- Tends to be **low** when the labour market is **tight** and **high** when the labour market is **loose**

Figure 5. Total and youth unemployment rate and share of long-term unemployment



Source: Statistics Portugal, Labour Force Survey – 3<sup>rd</sup> quarter of 2024.

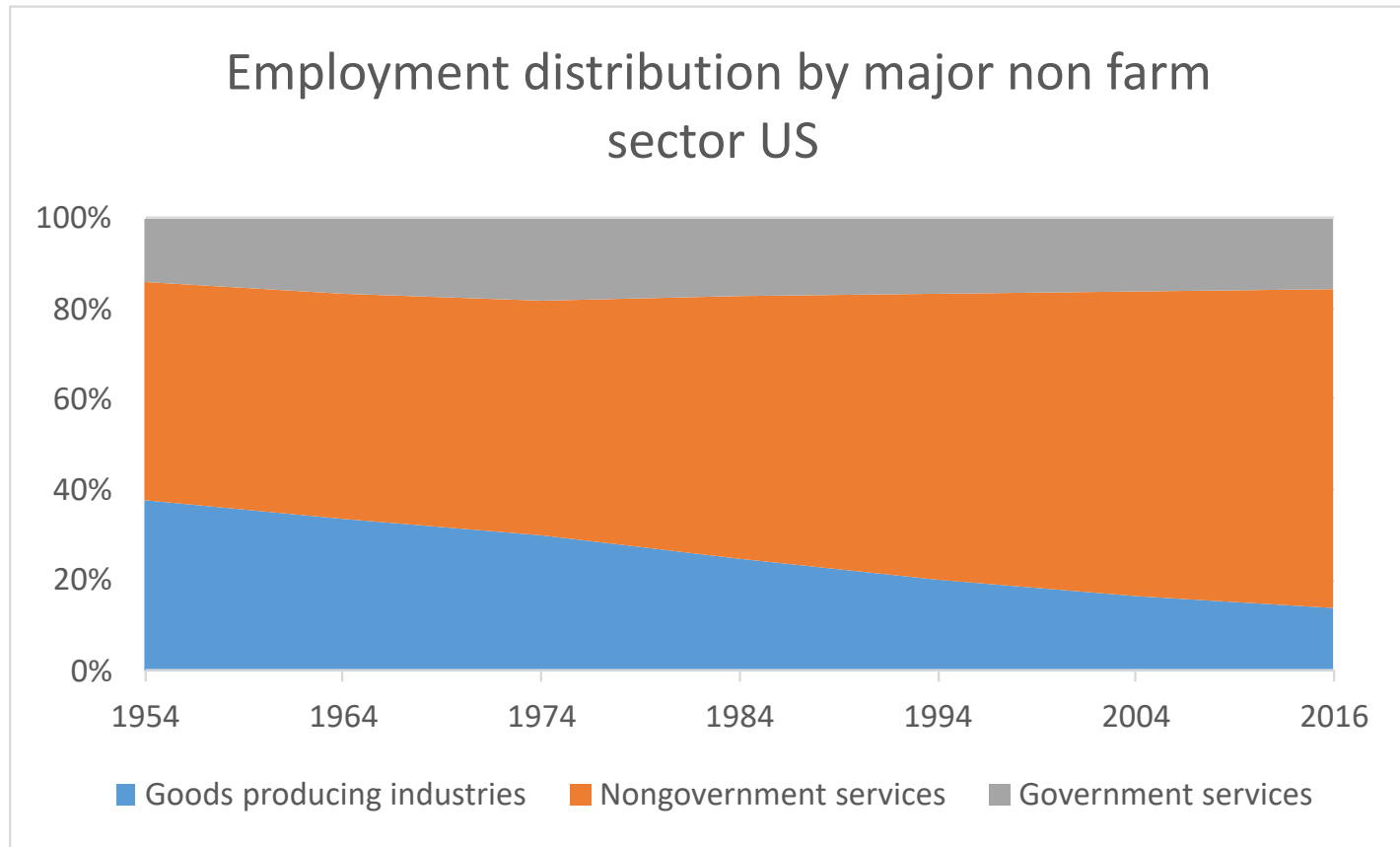
# The Labour Market: Definitions, Facts, and Trends

## Industries and Occupations: Adapting to Change

- The labour-market changes are sizable:
  - There are sectoral changes in jobs
  - Workers and employers have adapted through the acquisitions of new skills and technology

# The Labour Market: Definitions, Facts, and Trends

## Industries and Occupations: Adapting to Change



# The Labour Market: Definitions, Facts, and Trends

## The Earnings of Labour

- **Labour market price:** the wage rate - price of labour per working hour
- **Nominal and Real Wages**
  - **Nominal wage** – paid per hour in current monetary units
  - **Real wages** or the real purchasing power – nominal wages divided by some measure of prices (usually the consumer price index – CPI) – allows to analyze evolution over time

*NOTE: The CPI - Using the CPI to convert present values into past values and vice versa. Problems with the use CPI*

- *Consumers change the bundle of goods and services (namely in response to price changes), but those changes not reflected in CPI bundle*
- *CPI does not account for changes in quality of bundle*

# The Labour Market: Definitions, Facts, and Trends

## Wages, Earnings, Compensation, and Income

- **Wages:** payment for a unit of time/hour worked
- **Earnings** = Wages x hours worked
- **Employee Benefits**, paid by employer in kind or deferred:
  - payments in kind: health care, health insurance, and paid vacation
  - deferred payments: Retirement benefits – Social Security taxes
- **Total compensation** = earnings + employee benefits
- **Unearned income:** includes interest, dividends and government transfers
- **Income** = Total compensation + Unearned income