

# Microeconomics

## Introduction

Harald Wiese

Leipzig University

studies

- **decisions** of individuals (e.g. purchase decision, investment decision, voting decision) **and**
- the **interaction** of these decisions in markets (by means of prices), in organizations (by means of hierarchies), and in political institutions (by means of voting) and in general in **situations of cooperation and conflict.**

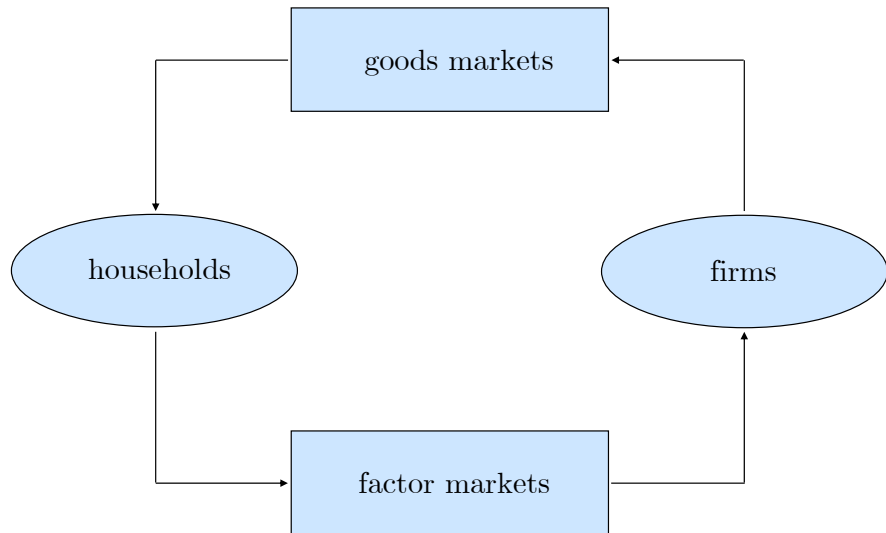
# In the lecture we examine

- how minimum wages can cause unemployment,
- why minimum wages can increase employment in particular situations,
- how production technologies are linked to costs,
- why environmental pollution may be inefficient,
- why the “optimal” pollution is unequal to zero,
- why competition is not a crime, and
- why game theory matters for serious issues.

# Basic categories of microeconomics

- Agents: households, firms and state
- Households and firms are connected via markets.
  - Households consume products which are produced by firms.
  - Firms use production factors (as labor and capital) which are provided by households.
- How do taxes, levied by the state, influence the behavior of households and firms?

# Economic cycle



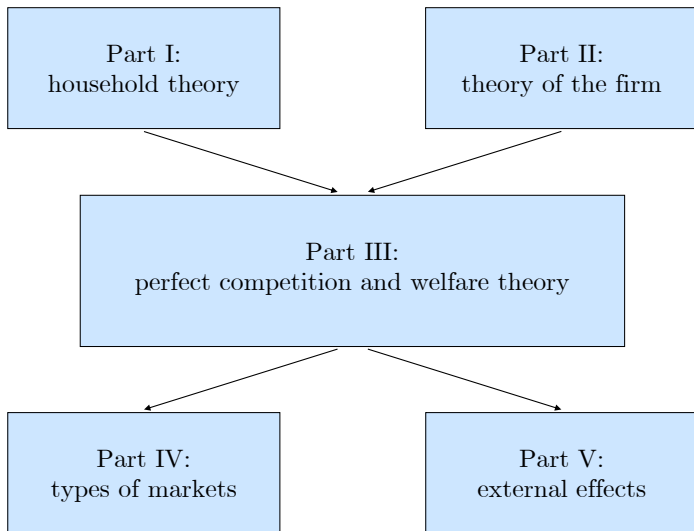
# Microeconomic toolbox

- **Rationality:** goal-oriented behavior  
Agents pursue maximization.
- **Equilibrium:** No individual has an incentive to change behavior at the given constraints.
- **Comparative statics:** Comparison of equilibria  
Parameter (input of the model)  $\Rightarrow$  variables (output)

# Microeconomic three-step procedure

- analytical results (some math!)
- graphical illustrations and
- their intuitions.

# Overview microeconomics





# Household theory

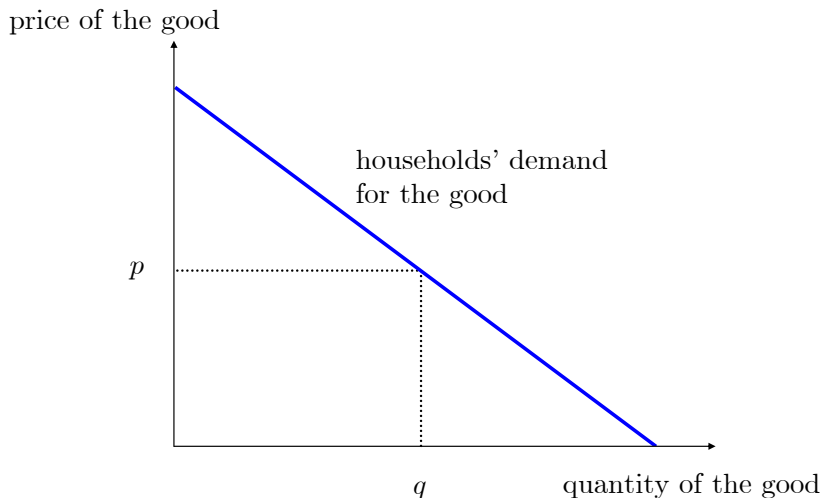
- Household theory addresses consuming economic entities that
  - have an **income**, which is used for consumption,
  - have **preferences** about bundles of goods, and
  - buy a bundle of goods,
    - which they **can afford** and
    - which they **like best** of all bundles that they can afford.
- Bundle(s) of goods: **household optimum**

# Household theory

- Derivation of individual demand curve
- Derivation of aggregate demand curve
- Determination of a household's labor supply
- Modeling of uncertainty

# Household theory

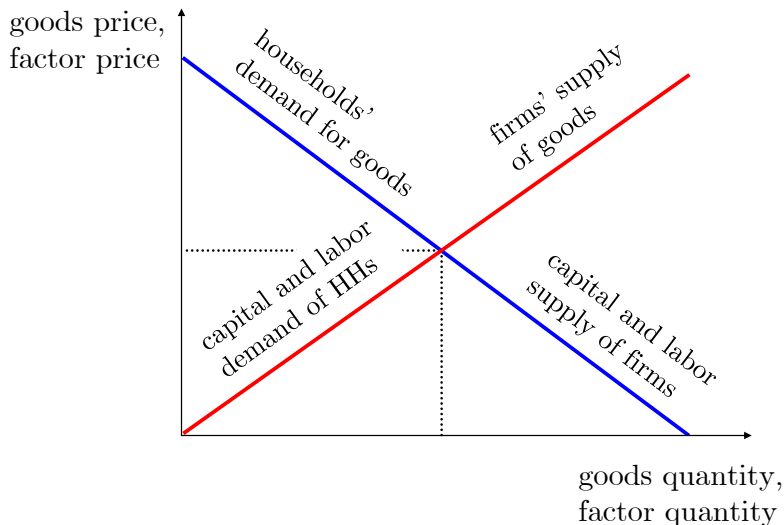
## Aggregate demand curve



# Theory of the firm

- Firms: productive units
- Production: process that produces final products by combining production factors (capital, labor)
- **Production function:**  
assigns a particular output to every combination of input factors.
- Derivation of the **cost function** using the production function and factor prices (e.g., wage for the factor labor)
- **Profit** = revenue – cost

# Perfect competition and welfare theory



# Perfect competition and welfare theory

- **Perfect competition = firms are price takers**
- Which of the infinitely many possible prices (more than one market: price combinations) hold in equilibrium?
- **Pareto optimality:** It is not possible to improve someone without worsening anyone else.
- **Consumer and producer surplus**

# Types of markets

Deviations from the model of perfect competition

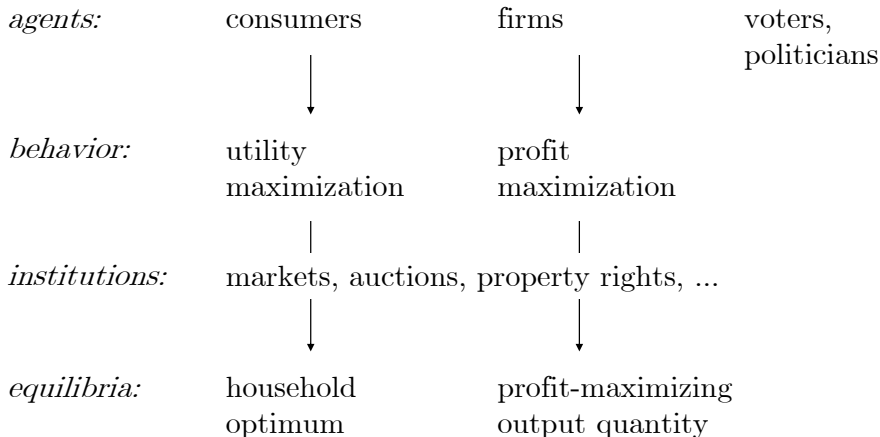
- **Monopoly: one supplier** and many demanders
- **Oligopoly: few suppliers** and many demanders

# External effects and public goods

- External effects: impact of one economic subject on another one apart from their market relationships
  - **Negative external effects:** environmental pollution
  - **Positive external effects:** pleasure of enjoying beautiful gardens that are taken care of by others
- Problem: negative external effects yield “too much” activity and positive external effects yield “too little” activity
- How can private or state activity address these problems?



# Again: What is microeconomics?



# Dates: Microeconomics

Lectures:

Monday 09:15 - 10:45

Wednesday 09:15 - 10:45

Central tutorial:

Wednesday 08:15 - 09:00

Decentralized tutorials:

starting this week (see website)

# Contact

Prof. Dr. Harald Wiese  
Leipzig University  
Chair of Microeconomics  
Grimmische Str. 12  
Room I233, I235  
Tel.: 0341-9733771  
E-mail: [wiese@wifa.uni-leipzig.de](mailto:wiese@wifa.uni-leipzig.de)

Please, address problems directly after the lecture!

## Introduction

- Household theory
  - Budget
  - Preferences, indifference curves and utility functions
  - Household optimum
  - Comparative statics
  - Decisions on labor supply and saving
  - Uncertainty
  - Market demand and revenue
- Theory of the firm
  - Production theory
  - Costs
  - Profit maximization

- Perfect competition and welfare theory
  - Perfect competition
  - First welfare theorem
  - Monetary assessment of environmental impacts
- Types of markets
  - Monopoly and monopsony
  - Game theory
  - Oligopoly
- External effects and public goods
  - External effects and environmental economics
  - Public goods

Pareto-optimal review

# What do you need to do?

- Study textbooks
- Read the slides
- Participate in lectures
- Central tutorial
  - Wednesday 8:15-09:00
  - Independent preparation necessary, also in learning groups
  - You can find exercises
    - at the end of the slides or
    - at the end of the chapter in the textbook.
- Decentralized exercises every second week
  - Website of the chair
  - No preparation
- Begin today!

# Recommended literature I

## PhD-level:

- Mas-Colell, A., Whinston, M. D. and Green, J. R. (1995). Microeconomic Theory, Oxford University Press.

## Master-level:

- Varian, H. R. (1992). Microeconomic Analysis, 3. edition., Norton, New York.

## Bachelor-level:

- Varian, H. R. (2010). Intermediate Microeconomics, 8. edition., W. W. Norton & Company, New York/London.
- Wiese, H. (2014). Mikroökonomik, 6. edition, Springer

# Recommended literature II

- Hönscheid, Th. (2009), Schwester Helga – Der Arztroman zur Mikroökonomie, Eichborn. (SH 17)
- Becker, G. S. (1993). Der ökonomische Ansatz zur Erklärung menschlichen Verhaltens, 2. edition, J.C.B. Mohr (Paul Siebeck), Tübingen.
- Landsburg, S. E. (1993). The Armchair Economist, The Free Press, New York et al.