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## **The Distribution of Income and Wealth**

### *Preliminary Remarks*

- This class deals with the distribution of income and wealth.
- For this purpose different approaches to explain the theory and the empirics of distribution will be discussed in further detail.
- Besides these topics the course covers policy measures to redistribute income and wealth.
- Furthermore, the design of tax systems will be analysed.
- At the end of the course we will discuss a case study.

### *Readings*

- Due to the fact that the class deals with a great number of different topics there is no single textbook that covers all themes. Therefore, students should read several papers and chapters of books to prepare the lecture and the exam. Some of the papers are available in the internet. The relevant references will be given in advance.
- Some key elements can be found in:

Begg, D., Fischer, St., Dornbusch, R. (1997)  
Economics, 5th edition, London et al: McGraw-Hill  
Chapter 13, 15

Mankiw, N.G. (2001)  
The Principles of Economics, 2<sup>nd</sup> ed., Fort Worth et al.: Harcourt  
Ch. 6, 12, 18-20

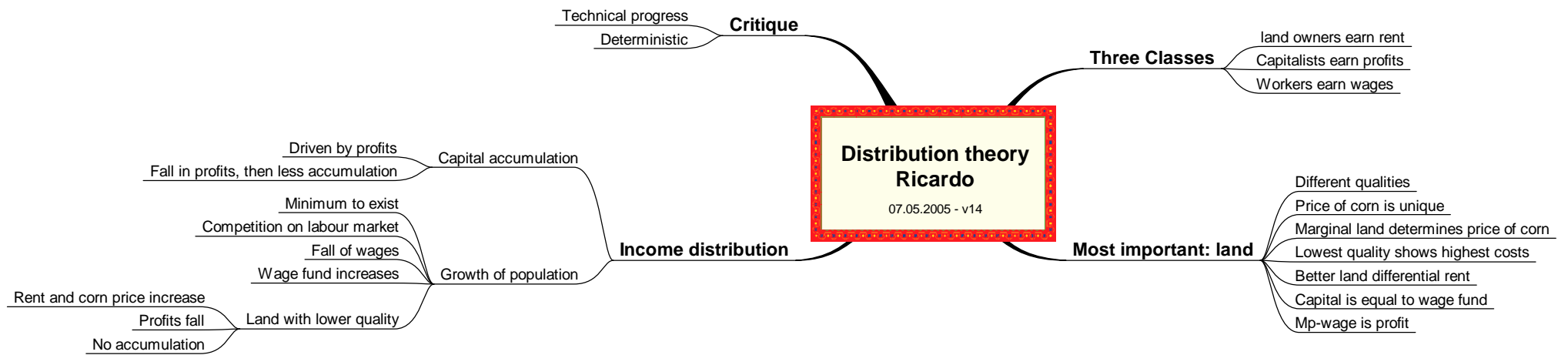
Also the 3<sup>rd</sup> edition can be used.

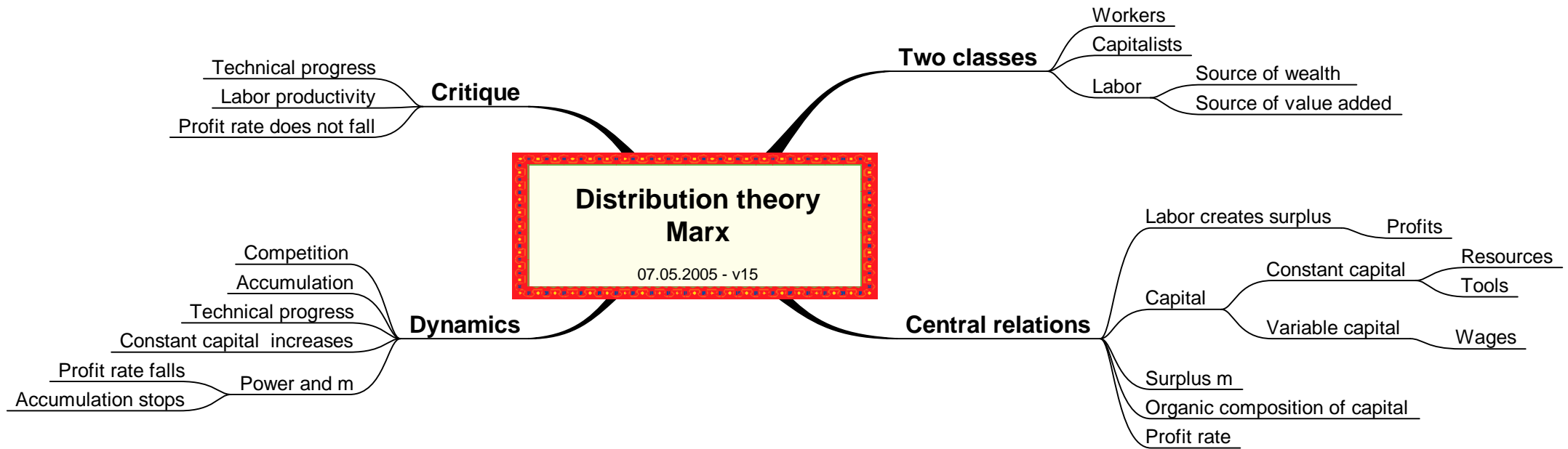
Another interesting book is:

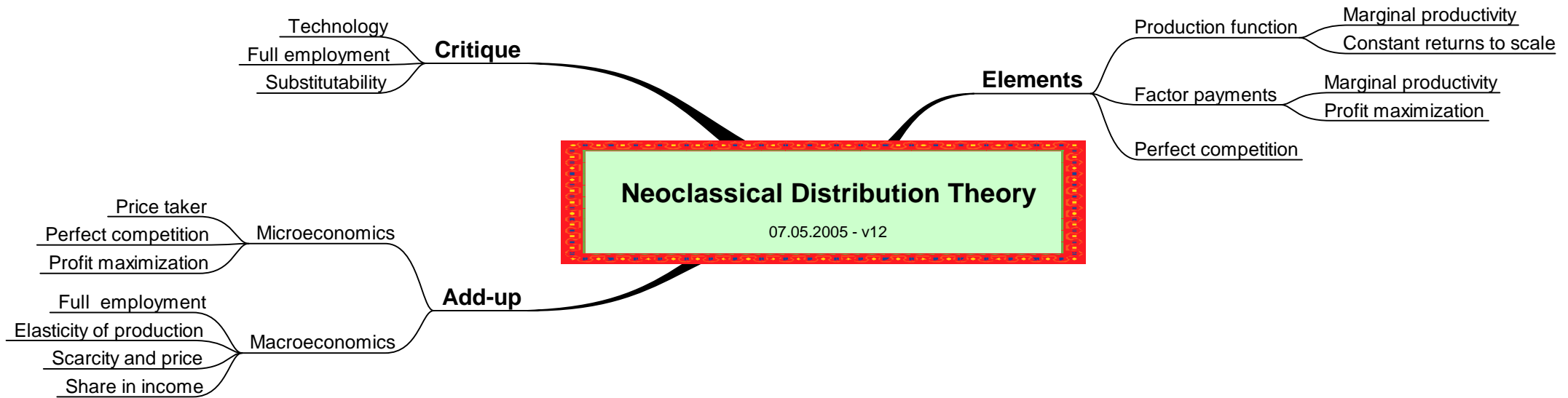
Connolly, S. / Munro, A. (1999)  
Economics of the Public Sector  
Harlow: Pearson Education

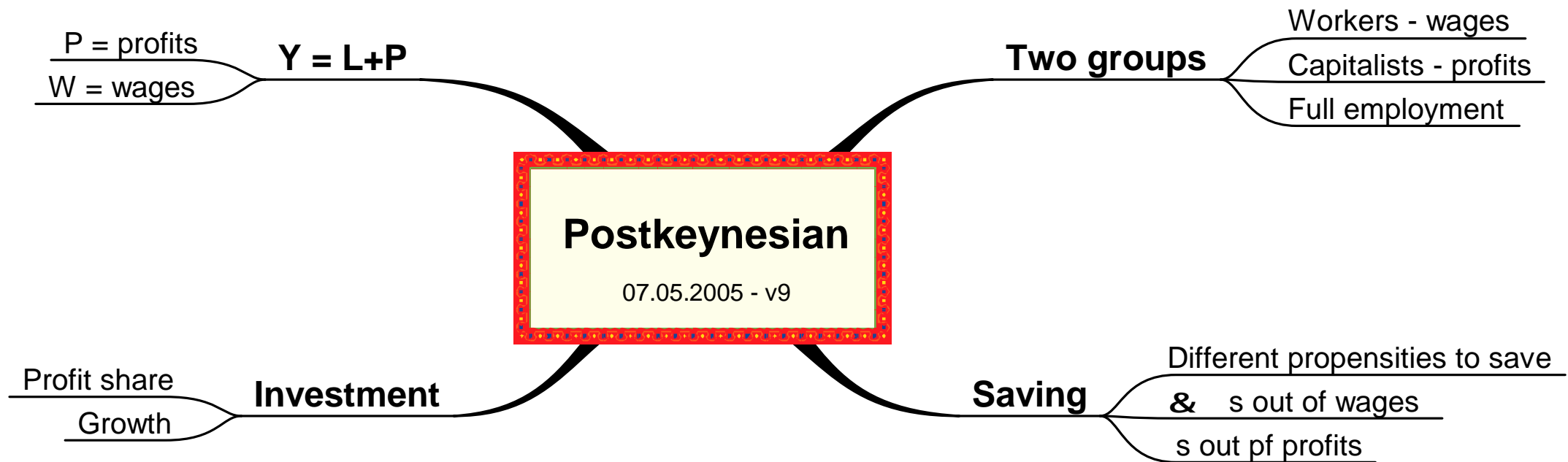
## *Contents*

1. Theoretical Foundations
  - Ricardian approach
  - Marxian approach
  - Neoclassical approach
  - Postkeynesian approach
  - Aims of distribution policy
  - Equity: Performance – Equality – Needs
  - Efficiency versus equity
2. The Empirics of Distribution
  - The Functional Income Distribution
  - The Personal Income Distribution
  - The Personal Wealth Distribution
3. The Role of the Public Sector
  - The Redistribution of Income and Wealth
  - The Design of the Tax System
  - Earnings and Discrimination
  - Income Inequality and Poverty
  - Pay Policy
4. Social Security and Labour Markets
  - Aims and Principles of Social Security Systems
  - Labor market policy
  - Labor market institutions
5. A Case Study: Social Security and the Motivation to Work



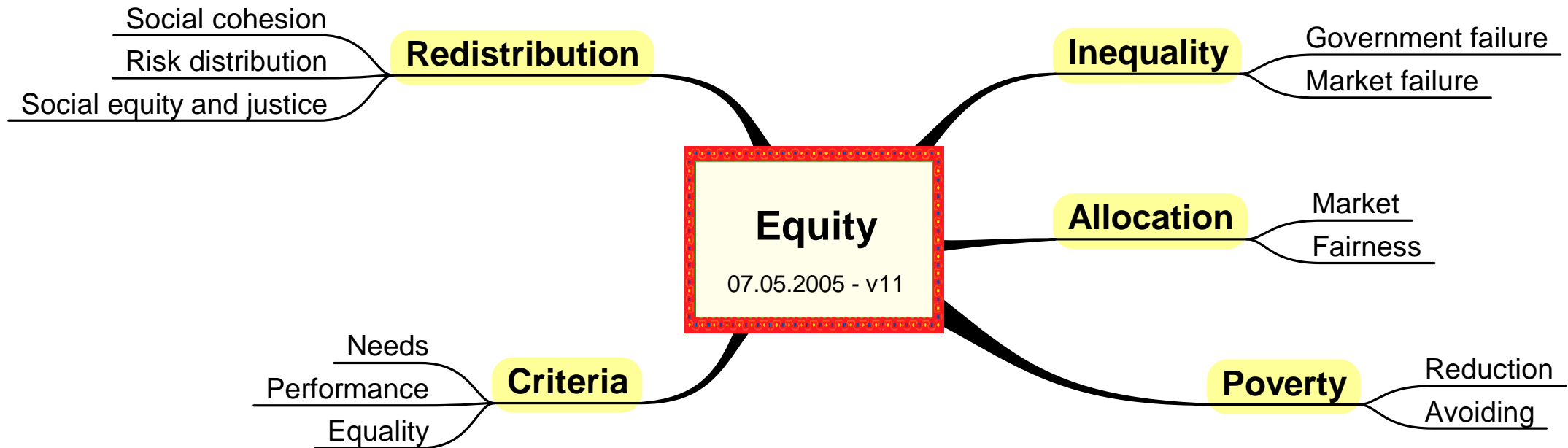






# Aims of Distribution Policy

- Securing the dignity of man
- Transfer Payments to help persons who cannot contribute to output
- Linking income to performance
- A fair distribution of income and wealth
- Open questions: What is fair? What is equity?





## Functional Income Distribution

- Share of wage and capital income

$$(1) \quad Y = W + P$$

$$(2) \quad 1 = \frac{W}{Y} + \frac{P}{Y}$$

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## Functional Income Distribution

- Problem: Structural Changes

$$(3) \quad WS = \frac{W}{Y} = \frac{AN}{ET} \frac{\frac{W}{AN}}{\frac{Y}{ET}} = ax$$

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## Functional Income Distribution

- a stands for the employees-employment-ratio
- x stands for relative income position of employees
- WS is biased due to changes in the structural composition of employment

## Functional Income Distribution

- **Standardized WS:**

$$(4) \quad WS_t^{\text{std}} = \frac{AN_0}{ET_0} \frac{\frac{W_t}{AN_t}}{\frac{Y_t}{ET_t}}$$

## Functional Income Distribution

- What about the income of entrepreneurs?
- Further standardization
- Assumption: entrepreneurs earn the average wage income.

$$(5) \quad AE_t = \frac{W_t}{AN_t} ET_t$$

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## Functional Income Distribution

- Thus, the "Arbeitseinkommensquote" is given by:

$$(6) \quad AEQ_t = \frac{ET_t}{Y_t} \frac{W_t}{AN_t}$$

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# Personal Income Distribution

- **Determinants of Income**

- ability (human capital)
- effort
- chance

- **Income Inequality**

- Lorenz curve
- Gini coefficient

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# Personal Income Distribution

- **Superstar Phenomenon**

- Why does Kobe Bryant earn so much?
- He is a superstar
- every customer in the market wants to enjoy the good supplied by the best producer (KB is one of the best basketball players in the NBA)
- the good is produced with a technology that makes it possible for the best producer to supply every customer at low cost (here: TV, Internet, globalization)

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## Personal Income Distribution

- **How to influence the personal income distribution**
  - pay policy
  - wealth redistribution
  - education
  - inheritance tax
  - tax policy, fiscal policy
  - price policy
  - stabilization policy

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## Distribution of Wealth

- **Determinants of the distribution of wealth**
  - physical capital
  - natural resources
  - consumption goods
  - human capital
  - property rights
  - social capital

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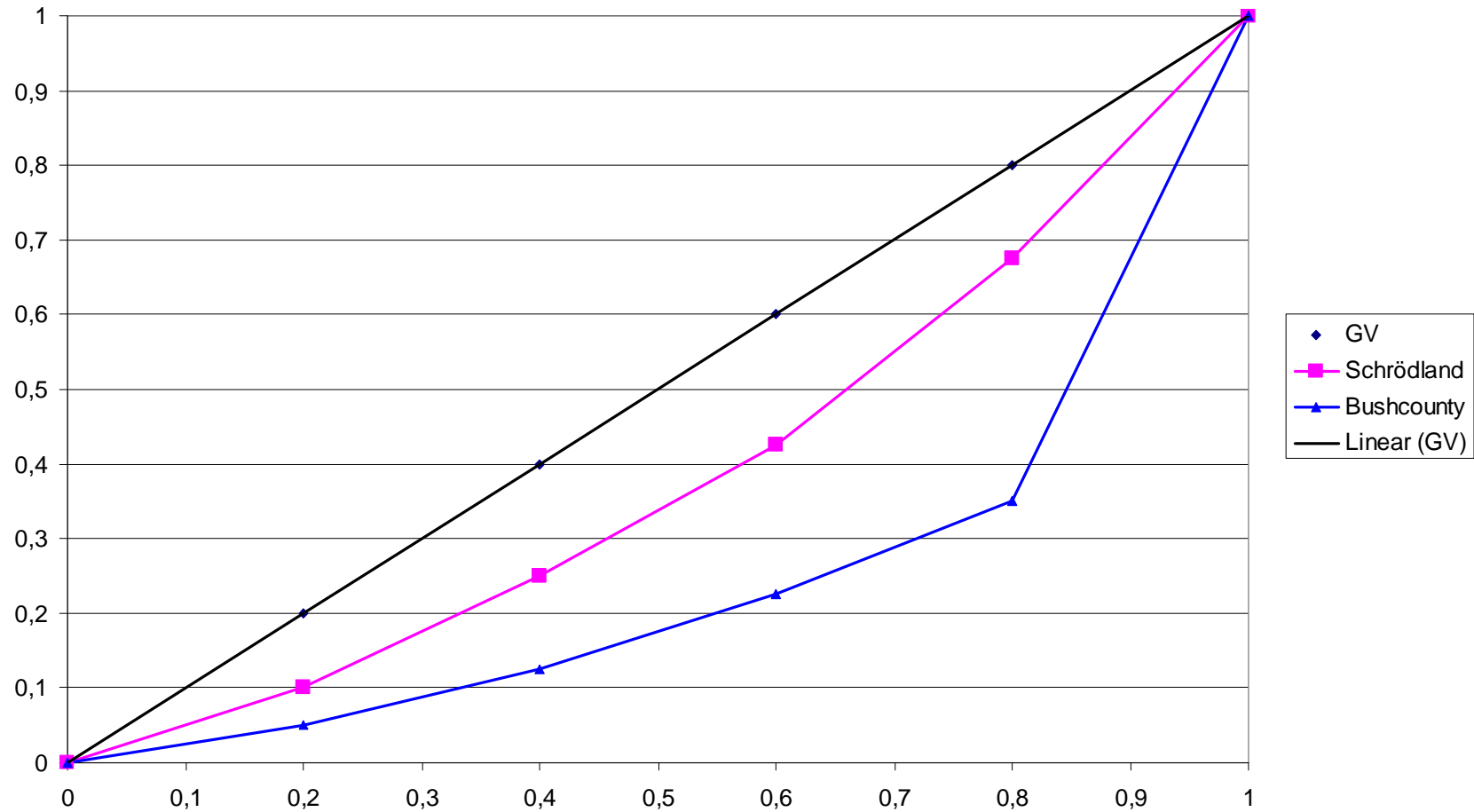
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# Redistribution of Wealth

- How to do it?
  - property and inheritance taxes
  - privatisation
  - property rights
  - willingness and ability to save
  - credits and mortgages
  - education

# Lorenz Curves



# Principles of Taxation

- **benefits principle**
  - the idea that people should pay taxes based on the benefits they receive from government services.
- **ability-to-pay principle**
  - the idea that taxes should be levied on a person according to how well that person can shoulder the burden

# Taxation

- **Equity**
  - Vertical equity
    - Taxpayers with a greater ability to pay taxes should pay larger amounts.
  - Horizontal equity
    - Taxpayers with similar abilities to pay taxes should pay the same amount.



# Taxation

- **Tax rates**
  - Average tax rate
    - Total taxes paid divided by total income
  - Marginal tax rate
    - The extra taxes paid on an additional dollar of income

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# Taxation

- **Kind of Taxes**
  - Proportional tax
    - constant fraction of income
  - Regressive tax
    - The higher the income, the smaller the tax rate
  - Progressive tax
    - The higher the income, the higher the tax rate

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# Taxation

- **Related Problems**

- Tax incidence
  - Who bears the burden of taxes
- Deadweight loss
  - Fall in total surplus that results from a market distortion, such as a tax.
- Efficiency and equity

## Pay Policy: Wages and Productivity

### Assumptions:

- q Price level (P) depends on unit costs (k)
- q Mark-up-Pricing

$$(1) \quad P = ak$$

and growth rates

$$(2) \quad g_P = g_k$$

What determines unit costs?

1. labour cost per unit  $k_L = \frac{wL}{Y}$
2. capital cost per unit  $k_K = \frac{qK}{Y}$
3. total cost per unit  $k = k_L + k_K$

Rearranging of labour cost per unit leads to:

$$(3) \quad k_L = \frac{L}{Y} w = \frac{w}{\pi_L}$$

The same holds for capital costs per unit:  $k_K = \frac{K}{Y}q = \frac{q}{\pi_K}$

Thus, for growth rates:

$$(4) \quad g_K = (g_W - g_{\pi_L})lcs + (g_q - g_{\pi_K})ccs$$

When capital costs are constant, than changes in labour costs lead to a change in the price level.

Prices will be stable, if  $g_P = 0$

Then  $g_W = g_{\pi_L}$

$\Rightarrow$  Wages must follow productivity

$\Rightarrow \frac{wL}{Y}$  will be constant, too.

**Assumption: Other costs also change.**

If  $g_{k_K} > 0$ , then the growth rate of wages must be equal to:

$$(5) \quad g_W = g_{\pi_L} - g_{k_K}$$

**Increasing capital costs reduce the possibilities of wage increases.**

**Further variables**

Terms of trade

Unavoidable inflation

# Taxation and Social Security

- Policies to reduce poverty
  - minimum wages
  - welfare to supplement the incomes of the needy
  - negative income tax
  - in-kind transfers (inefficient? free decision?)

# Principles of Social Policy

- solidarity
- subsidiarity
- responsibility (individual and social)
- market oriented



## Aims of Social Security System

- social harmony
- individual responsibility
- equity
- dignity of man

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## Social Security in Germany

- **Key Elements**
  - unemployment
  - pension funds
  - health

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