

# **Purposes and design of ROAs labour market forecasting model**

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# References

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- Heijke, H. (ed.) (1994), *Forecasting the Labour Market by Occupation and Education, The Forecasting Activities of Three European Labour Market Research Institutes*, Kluwer Academic Publishers, Boston etc.
- Heijke, H. & Borghans, L. (eds) (1998), *Towards a Transparent Labour Market for Educational Decisions*, Ashgate, Aldershot etc.
- Neugart, M. & Schömann, K. (eds) (2002), *Forecasting Labour Markets in OECD Countries, Measuring and Tackling Mismatches*, Edward Elgar, Cheltenham UK etc.
- Cörvers, F., et al., *Beyond manpowerplanning: a labour market model for the Netherlands and its forecasts to 2006*, in: Neugart, M. & Schömann, K. (eds) (2002).
- Cörvers, F. & Heijke H. (2004), *Forecasting the labour market by occupation and education: Some key issues*, ROA-W-2004/4, Maastricht.

# Part I Purposes of the labour market forecasting model

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- From planning to forecasting
- A transparent labour market
- Basic principles taken into account
- Structure of the model
- Organisation and funding

# From planning to forecasting

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- 1960s, development of methods for educational planning: The manpower requirement approach (Parnes, 1962)
  - 1980s, withdrawal of public sector, enhancing competitive strength of the economy: Need for information that makes markets more transparent
- => Labour market forecasts for optimal investments by market parties in education, training and human resources



# A transparent labour market for:

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- Investments in study programs
  - Student counselling
  - Active labour market policies
  - Recruitment and human resources policies
  - Policies to reinforce economic structure and economic growth
- => Resulting in more productive and more satisfied workers and less mismatch costs

# Basic principles taken into account

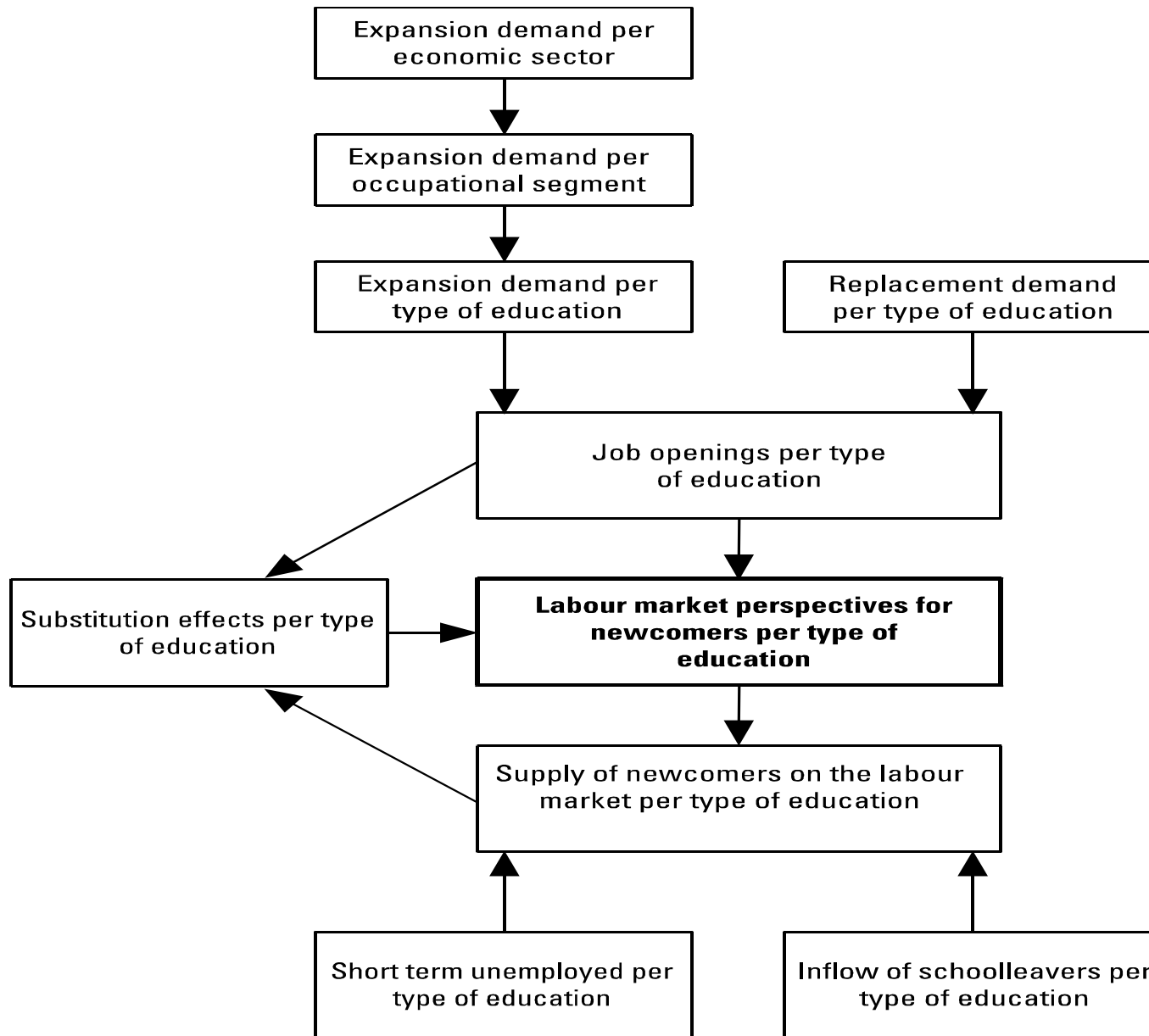
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- Forecast term: 5 years
- Explanatory models
- Ex ante and ex post substitution
- Find a well-balanced detail of information by clustering of types of education and occupation into relatively homogeneous groups (100 types of education, 130 occupational groups)
- Transferring forecast quantitative gaps into qualitative statements running from 'very good' to 'poor'
- Forecasts biennially repeated
- Use of already available authoritative forecasts of e.g. macroeconomic and sector developments and student outflows
- Add risk indicators like sensitivity for cyclical fluctuations and occupational flexibility potential of types of education
- Periodically evaluation of forecasts made and adjustment and improvement of models used
- Take care for a broad dissemination plan which covers all user groups

# Structure of the model

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# Information system

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- *Current labour market:*  
unemployment, bumping down, working outside own field of study, wage
- *Future labour market:*  
job openings due to expansion and replacement demand, inflow into the labour market, skill gaps
- *Risk-indicators:*  
broad or narrow occupational domain, educational substitution possibilities for employers within occupations, wage distribution

# Dissemination

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- Informative reports
- Media attention
- Information on request
- Interactive information system
- Summaries in journals of professions and branches
- Websites, interactive computer systems, brochures for guidance and counselling



# Organisation and funding

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- Independent research institute affiliated to a university:  
ROA
- Long term project with rolling budget
- Advisory committee with independent chairman  
(university professor) and experts from:
  - Funding parties
  - Ministries involved
  - Statistics Netherlands (CBS)
  - Netherl. Bureau for Economic Policy Analysis (CPB)
  - Representatives of schools
  - Labour market experts and researchers

# Funding parties

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- Ministry of Education Culture and Science
- Ministry of 'Agriculture'
- Public employment office (CWI)
- Private employment agencies (Randstad)
- Branch institutes for advise on qualification structure of vocational studies and provision of training firms
- Private institutions for educational and occupational choice

# Part II Design of the model. Some key issues

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- Estimated rate of returns or labour market forecasts?
- Labour market supply-demand gaps
- Active and passive substitution

# Rate of returns or labour market forecasts?

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- *Rates of return*

Based on relation between earnings and educational background of population over their working life

Drawbacks: Educational background can be outdated; effects of supply/demand shifts are implicit, but may change in the future; no detailed information available by both level and field of study

- *Labour market forecasts*

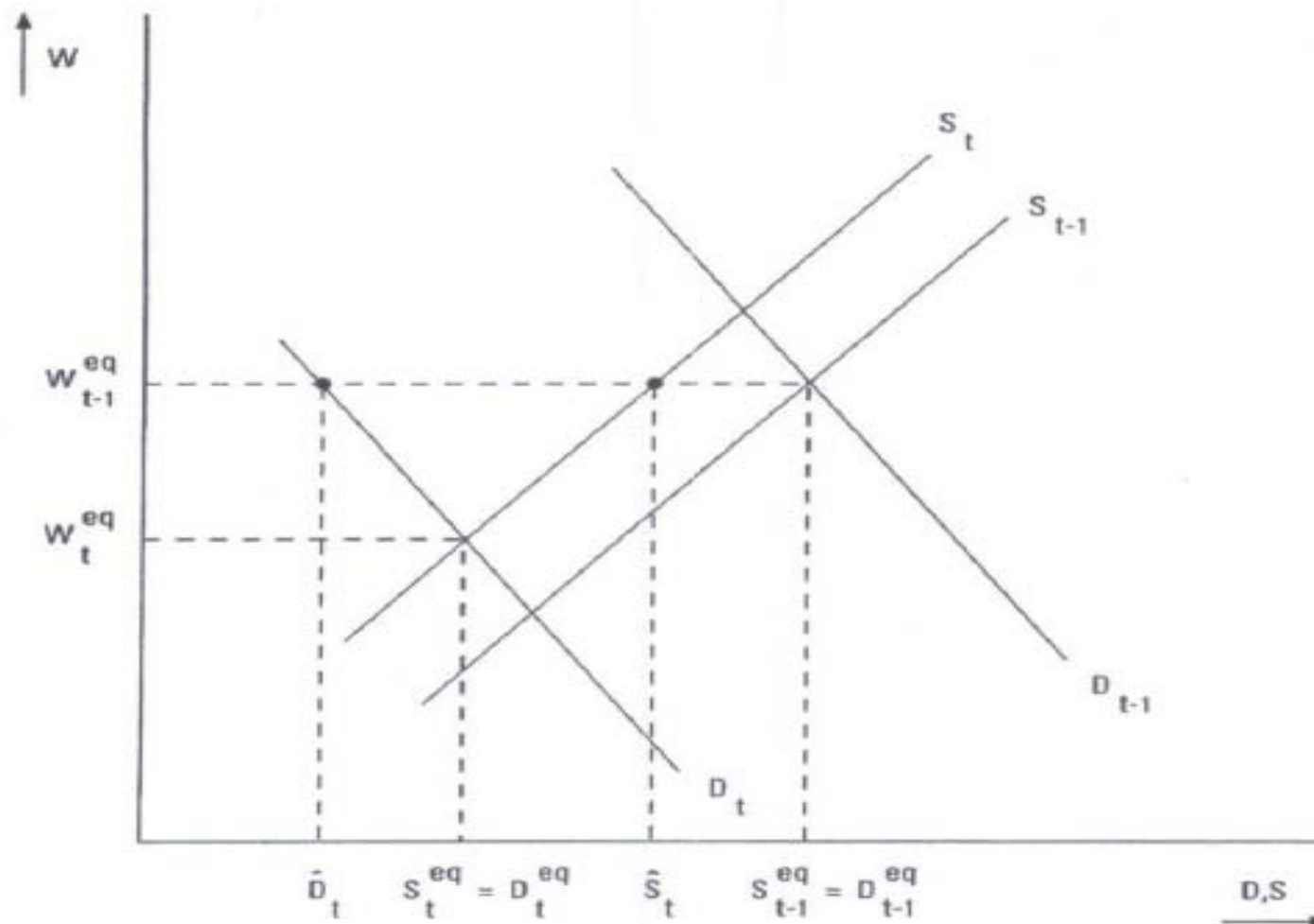
Based on estimations of future shifts of supply and demand

Drawback: Future shifts of supply and demand over a working life period are too uncertain to estimate

However: Provide very detailed information by both level and field of study; when forecasts are restricted to medium term they can be quite reliable

# Supply/demand gap and labour market adjustment

Figure 1. The relationship between gaps between supply and demand in manpower forecasts and wage adjustments



# Interpretation of the gap

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Assumption: adjustment not by wages alone

- *demand > supply*  
lower chance of unemployment,  
higher chance of a job in own domain, on  
appropriate level, permanent job, full time  
job and with a higher wage
- *demand < supply*  
higher chance of unemployment, a job  
outside own domain, below the appropriate level and  
with a lower wage  
lower chance of a permanent job and a full time job

# Substitution

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See for key issues 'gap' and 'substitution':

Frank Cörvers & Hans Heijke (2004),  
Forecasting the labour market by  
occupation and education: Some key  
issues, ROA-W-2004/4, Maastricht